GOVERNMENT OF MADRAS

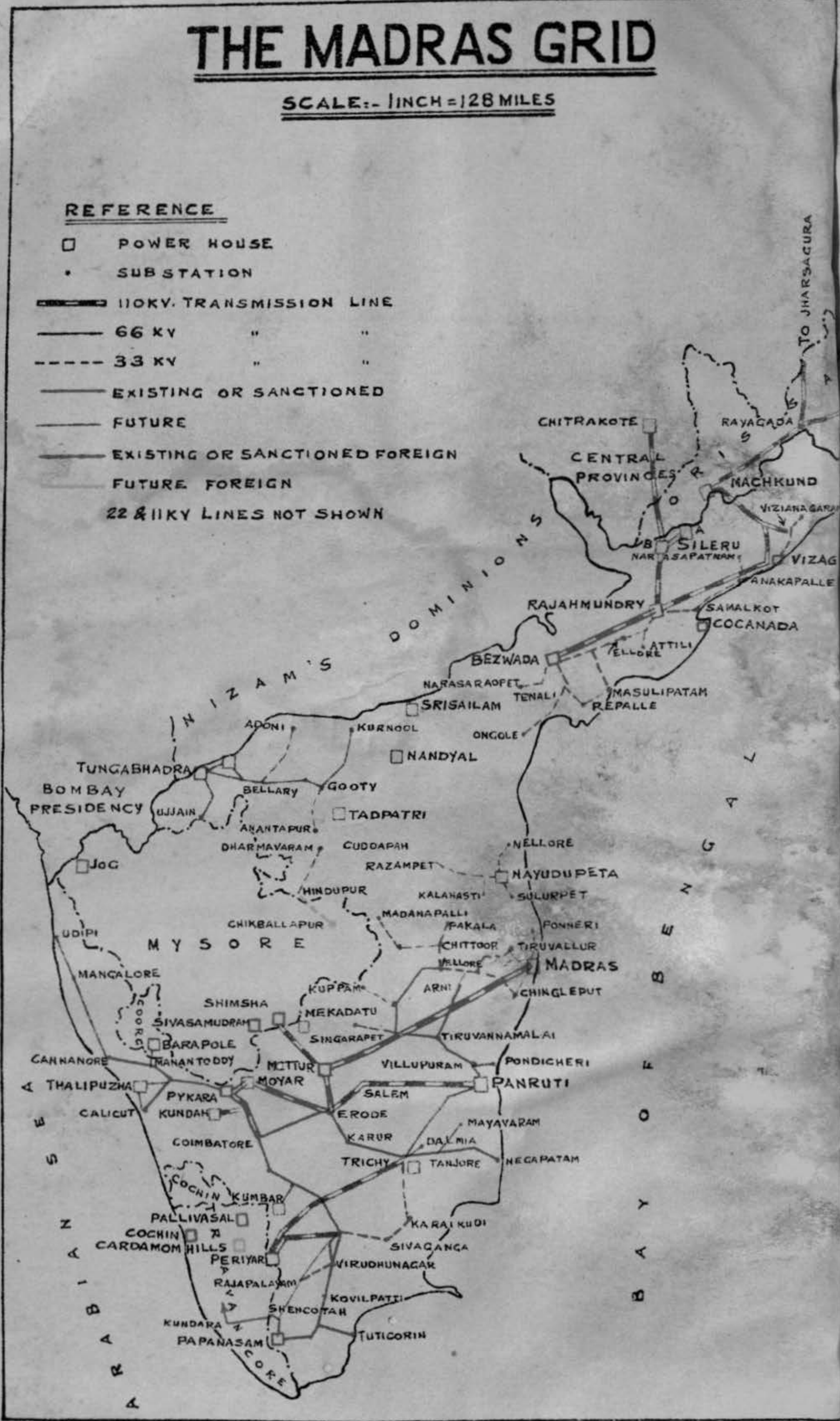
ADMINISTRATION REPORT

OF THE

ELECTRICITY DEPARTMENT FOR 1945-46

PRINTED BY THE SUPERINTENDENT
GOVERNMENT PRESS
MADRAS
1947

Price, 2 rupees 8 annas



Reg. No. 56. Copies 403. Re-produced from Indentor's Original. Helio, P. Z. P., C. S. O., Madras. 19

CONTENTS.

Section I—General Review.

Section II—Detailed Report.

Power Development Branch.

Operating Systems Branch.

Pykara System.

Mettur System.

Papanasam System.

Vizagapatam System.

Bezwada System.

Cocanada System.

Electrical Inspectorate and Licensee Electric Supply Undertakings.

APPENDIX A.

APPENDIX B.

APPENDIX C.

APPENDIX D.

APPENDIX E.

LIST OF ILLUSTRATIONS.

CHART.

ADMINISTRATION REPORT OF THE ELECTRICITY DEPARTMENT FOR 1945-46.

SECTION I—GENERAL REVIEW.

INTRODUCTORY.

The progress of the department during 1945–46 was on the whole satisfactory otwithstanding the restrictions and controls which continued throughout the ear despite the cessation of hostilities in 1945. The salient features were—

(1) Agreement was reached with the Orissa Government on the joint levelopment of the Machkund Hydro-Electric Scheme which is capable of an ltimate development of 100,000 K.W. In April 1946, sanction to proceed with he scheme was accorded.

(2) The following major schemes were sanctioned:—

(i) The Moyar Hydro-Electric Scheme—estimated to cost Rs. 193·1 lakhs nitially rising to Rs. 268 lakhs in five years;

(ii) Extensions to the power station at Basin Bridge, Madras (now wned by the Madras Electric Supply Corporation and to be acquired by Government in 1947)—estimated to cost Rs. 110·25 lakhs initially rising to Rs. 244·17 lakhs in ten years;

(iii) Extensions to the Vizagapatam Power House—estimated to cost Rs. 22·91 lakhs initially rising to Rs. 27 lakhs in five years.

(3) Phenomenally adverse water conditions prevailed at Mettur during the ear. Due to the early issues of water for irrigation from the reservoir to assist he grow more food campaign, the late onset of the south-west monsoon and the veakness of the north-east monsoon, the Mettur reservoir got depleted and he lowest level on record was reached, viz., 676;4 feet (full reservoir level is +790 feet). The Mettur power house had to be closed down on 16th January 1946 when the lake level dropped to 678 feet corresponding to 47 feet gross head over the turbines, as generation was no longer possible. It was re-started on 30th January 1946. Power-supply to the Mettur system was, however, maintained satisfactorily thanks to the relief afforded by the Pykara power station nd no serious dislocation or diminution of production or inconvenience to onsumers was caused.

(4) The gross revenue during the year from the departmental undertakings was Rs. 116·44 lakhs, registering a rise of 13 per cent over the previous year.

2. *Load development.*—As in the previous year, additions to loads were onfined to war requirements and essential needs including agricultural pumpets.

The aggregate of power demands on the Government power systems was 0,870 K.W. and the units generated totalled 327·35 millions, as shown below, gainst 58,125 K.W. and 301·14 millions, respectively last year:—

Name of Government system.	Demand in K.W.	Total generation in millions of units.
Hydro-electric—		
Pykara	27,150	173·11
Mettur	19,400	88·7
Papanasam	9,800	47·21
Thermal—		
Vizagapatam	1,600	6·55
Bezwada	2,500	10·38
Cocanada	420	1·4
	60,870	327·35

For the Province, figures for power generation from all sources were as follows:—

	Generation in millions of units.
Government—	
Hydro-electric stations	309·02
Thermal stations	18·33
Licensees—	
Madras Electric Supply Corporation	80·95
Other licensees' stations	5·58
Total ..	413·88

This represents an increase of 9.2 per cent over last year. This departmen was responsible for 79 per cent of the power output, Madras Electric Suppl Corporation for 19.5 per cent, and other licensees for the rest.

3. *Financial results.*—The gross revenue earned by Government undertaking during 1945–46 was Rs. 116.44 lakhs as against Rs. 102.94 lakhs last year, repre senting an increase of 13 per cent. Details were as follows:—

Name of Government system.	Year of operation.	Total capital outlay.	Gross revenue.	Working expenses.	Net revenue.
			RS. IN LAKHS.	RS. IN LAKHS.	RS. IN LAKHS
Hydro-electric—					
Pykara	Thirteenth ..	341	104·55	47·68 *	56·87
Mettur	Ninth ..	216			
Papanasam	Second ..	186			
Thermal—					
Vizagapatam	Seventh ..	30	11·89	11·54 †	0·35
Bezwada	Seventh ..	43			
Cocanada	Sixth ..	6			

* In the case of Papanasam system depreciation contribution being made only for works transferred from Pykara system.

† Depreciation contribution not being made.

The receipts through the inspectorate amounted to Rs. 10.94 lakhs made u of Rs. 8.04 lakhs from the electricity duty and Rs. 2.9 lakhs from inspection under the Indian Electricity Act and Rules and other miscellaneous items.

4. *Number of consumers.*—The total number of consumers served by th electrical undertakings, including Government ones, in this Province was 134,12 as on 31st March 1946. Of these, 100,634 were in the area covered by th Government undertakings—20,905 served directly by the Electricity depart ment and 79,729 by licensees distributing Government power. The remainin 33,491 consumers were served by the self-generating licensees. Details are a under:—

Name of system.	Number of consumers.			
	Served by the Electricity department.	Served through distributing licensees in Government area.	Served by other licensees.	Total
Hydro-electric—				
Pykara	8,073	13,194	..	21,26
Mettur	7,493	40,029	..	47,52
Papanasam	3,570	18,363	..	21,93
Thermal-electric—				
Vizagapatam	892	1,879	..	2,77
Bezwada	423	5,268	..	5,69
Cocanada	454	996	..	1,4
Total ..	20,905	79,729		100,63
Madras Electric Supply Corporation	..	..	19,230	
Other licensees	..	..	14,261	
				33,4
			Total ..	134,1

The total number of villages and towns supplied with electrical energy by the Government power systems and by the licensees was 1,003. Of these, 440 were served directly by the Electricity department, 509 were served by licensees distributing Government power in hydro-electric and thermal area, and the remaining 54 by the other licensees in the Province. Appendix E (1) and (2) gives the names of villages and towns.

5. *Transmission lines and distributions.*—The Government transmission and distribution network included over 5,200 miles of lines of which 3,270 miles were of high voltage ranging from 110 K.V. to 11 K.V. and 1,949 miles were of low voltage, distributed as under:—

Name of system.	Number of route miles of lines. H.T.	L.T.
Pykara system	1,179	987
Mettur system	1,363	720
Papanasam system	382	138
Andhra system	346	104
	3,270	1,949

There were 725 distribution transformer stations with an aggregate transformer capacity of 33,103 K.V.A. as follows:—

Name of system.	Number of distribution transformer stations.	Aggregate transformer capacity. K.V.A.
Pykara system	385	18,397·5
Mettur system	205	8,313·0
Papanasam system	71	3,947·5
Andhra system	64	2,445·0
	725	33,103·0

6. *Agricultural development.*—A large part of the new load connected up during 1945–46, excepting military and war loads, was for agricultural pumping. To the extent permitted by the stock of materials and the limited staff available, as many pump-sets as possible, in Government and licensees' areas, were given supply. The following table gives data about the number of agricultural services supplied by electrical undertakings:—

Name of the undertaking.	Number of services connected during 1945–46.	Connected load in K.W.	Total number of agricultural services at the end of 1945–46.	Total connected load in K.W. of the agricultural services at the end of 1945–46.	Total consumption of all the agricultural services during 1945–46 in units.
Pykara system	218	965	2,902	12,998	15,228,847
Mettur system	198	875	1,202	4,851	4,347,749
Papanasam system	43	160	142	479	236,582
Vizagapatam system	..	..	10	58	28,550
Bezwada system	38	105	161	734	384,163
Cocanada system	..	..	2	15	8,872
	497	2,105	4,419	19,135	20,234,763
Licensees distributing Government power	231	821	1,219	4,447	6,049,876
Total ..	728	2,926	5,638	23,582	26,284,639
Other licensees	4	9	40	166	70,217
Total in all areas ..	732	2,935	5,678	23,748	26,354,856

In view of the food situation in the country, every effort is being made to give supply to the maximum number of pump-sets as quickly as possible.

A programme of accelerated expansion of agricultural load has been drawn up by the department according to which subject to availability of materials,

a target of about 1,800 pump-sets is expected to be connected up before the end of 1946.

Government have been requested to sanction special staff and large orders have been placed for the necessary materials.

The Agricultural department is making special efforts to obtain pumping equipments, G.I. pipes and other accessories and assist the agriculturists in installing them.

Agricultural load development in licensees' areas, barring a few exceptions is very poor. The need for urgent extension of supply to as many applicants as possible for food production under the present conditions has been emphasized by Government in a special circular recently issued to all licensees. It is hoped that the response will be satisfactory.

A stock argument of certain licensees receiving supply from this department is that their re-sale rate for agricultural purposes is not economic and paying enough to induce them to take up extensions to rural parts. As an incentive to licensees receiving supply from the hydro-electric systems of the Department to take up agricultural extensions Government have sanctioned, in June 1946 the grant of a rebate to such licensees, the rebate being equivalent to the difference between the overall purchase rate per unit of the licensee and 0.5 anna per unit, calculated on the number of units sold by the licensee for agricultural purposes.

7. *Power development programme.*—A heavy programme of construction has been planned for the years ahead.

The following major schemes would be in progress during 1946–47:—

(1) The Machkund Scheme in which are included—

(*a*) Vizagapatam plant extensions.

(*b*) Bezwada plant extensions.

(2) The Nellore Thermal Scheme.

(3) The Madras Thermal Scheme.

(4) The Ceded Districts Scheme.

(5) The Moyar Scheme.

(6) The Pykara III stage extensions.

(7) The Papanasam Extensions in which is included the Madura Thermal Scheme.

8. *Machkund Hydro-Electric Scheme.*—The execution of the scheme which was investigated by the Madras Government between 1940 and 1943 had been delayed by protracted negotiations about the boundary issue and the sharing of power. An agreement between the Governments of Madras and Orissa was arrived at in January 1946 in respect of the sharing of power, financial arrangements and the execution of the project. According to this agreement, each Government shall be entitled to 50 per cent of the ultimate power developed as well as that developed at every stage. The Madras Government may utilize 20 per cent of the power in addition to its share of 50 per cent for a period of 99 years subject to a payment to the Orissa Government, *annually*, of a sum equivalent to Rs. 20 per kilowatt on 20 per cent of the *actual* maximum demand recorded at the power house during each financial year, this provision being subject to revision after 30 years. On the expiry of 99 years the Orissa Government may take over the 20 per cent subject to payment of the proportionate share of the capital cost incurred by the Madras Government less depreciation. The capital cost of the scheme will be borne by the Madras and Orissa Governments in the ratio of 70 : 30 while the operation and maintenance charges will be borne by the two Governments in proportion to the maximum demand utilized by each.

The Madras Government will be responsible for the construction of the dam and the hydro-electric installation works while each Government will be responsible for the construction, maintenance and operation of the transmission lines and distribution systems in their respective territories. The Orissa Government may provide 30 per cent of the contractors and staff required for the construction and the subsequent operation and maintenance of the scheme, provided

uitable persons therefor are available. A Joint Board of Control, with representation in proportion to the capital contributed by each Government will be set up as soon as practicable and all matters of major policy will be referred to t. An Advisory Committee of five representatives, two from Orissa, two from Madras and one to be nominated by the Maharaja of Jeypore, will also be set up to advise the two Governments in respect of incidental matters connected with the resettlement of the dispossessed inhabitants, afforestation of reserved areas in the catchment areas, etc.

The Madras Government have the right to develop, at its expense and for its own use, power at two sites on the Sileru river for a period of 99 years after which Orissa Government will be entitled to claim 50 per cent of the total output on payment of the proportionate capital cost. During the 99-year period the Madras Government will, if required by the Orissa Government, supply power to it to the extent that can be spared, at the standard rates applicable to bulk consumers in the Madras territory from time to time.

The Machkund Hydro-Electric Project is capable of an ultimate development of 100,000 K.W. The first stage of the scheme will consist of three penstocks and three generating units, power up to 34,500 K.W. becoming available by 1950. The second stage will comprise the construction of the Jalaput dam, the third stage the fourth penstock and generating unit and the fourth and final stage will consist of the fifth and sixth penstocks and generating units.

The scheme will serve the needs of the Vizagapatam, East and West Godavari, Kistna and Guntur districts as far south as Ongole in this Province. The existing steam stations at Vizagapatam and Bezwada will be retained as standby. The Andhra area has all the prerequisites for great industrial expansion, viz., plenty of mineral forest and agricultural wealth, canals, roads, railways, harbours, cheap labour and enterprise, the only and important deficiency being cheap power. This deficiency will now be made good by the Machkund Hydro-Electric Project, inaugurating an era of rapid advance in industrial and agricultural development.

9. *Madras Electric Supply Corporation.*—The undertakings covered by the Madras Electric, Madras Port and Madras Cantonment licences, now owned and operated by the Madras Electric Supply Corporation, will be acquired by Government in August 1947 on the expiry of the existing licence periods. Statutory notice in this regard has already been served by Government on the Madras Electric Supply Corporation. It is proposed to entrust the valuation of the undertakings to Messrs. Merz and McLellan, a firm of Consulting Engineers and negotiations are in progress. The Government and the Madras Electric Supply Corporation have agreed to accept the valuation of the Consulting Engineers as final.

The power station is already overloaded and is unable to take up any fresh loads. In the years to come, there will be heavy demand for power. To meet the situation, extensions to the power station have been planned and sanctioned by Government. These extensions provide for the installation of one 15,000 K.W. turbo-alternator set with boilers and accessories, and for the addition of two more units later depending upon the load development. Messrs. Merz and McLellan have been engaged as Consulting Engineers for the first stage of the extensions. Three boilers, 80,000 lb. per hour have been ordered. Tenders for the generating sets have been called and contracts will be let by about August 1946.

Additional plant covered by the above extensions will be installed only in 1948. Consumers in the Madras area have already been subjected to restrictions by rationing their consumption. There is a large number of applications for new services pending with the Madras Electric Supply Corporation. The existing restrictions which are causing great inconvenience to the public should be removed as early as possible. Domestic and other new consumers requiring small amount of power should not be made to wait till 1948. Measures to ease the situation and meet their demand are under the consideration of Government.

10. *Moyar and Pykara Schemes.*—The Moyar Hydro-Electric Scheme was sanctioned in lieu of the Pykara plant extensions sanctioned by Government in

May 1945 and referred to in the last year's report. Due to the large demand for power it is proposed to proceed with the Pykara III stage extensions also at the same time. These extensions comprise the Pykara dam, installation of two generating sets of 13,500 K.W. each and the II stage of the Moyar Project with a third generating unit at Moyar. An estimate for Rs. 255·29 lakhs initially rising to Rs. 413.79 lakhs has been sanctioned by Government in June 1946 and work on the Pykara dam will be commenced shortly.

11. *Nellore Thermal Scheme.*—A scheme for supplying power to the Nellore area is being prepared with two 2,500 K.W. transportable power-sets initially and two 1,500 K.W. sets later. A rayon factory, a ceramic factory, micanite works and other industrial loads are expected to be supplied from this station in addition to supply to Nellore and Gudur towns and the agricultural and mining district around them.

12. *Ceded Districts Scheme.*—Proposals for the formation of a Ceded Districts grid initially by obtaining power from the Jog Falls Scheme of the Mysore Government have been sanctioned by the Government. The Mysore Government have agreed to give supply up to 4,000 K.W. at 66 K.V. near Ujjini within the Mysore border. The demand is expected to be 1,000 K.W. in 1948 rising to 4,500 K.W. in 1955. By 1952 the Tungabhadra Power House is expected to be ready and will take over supply to the area. Mysore supply will be stopped. The line from Ujjini to Tungabhadra power house will however be retained as an emergency tie line with the Jog system. The 66 K.V. bulk supply involves, to the Mysore Government, the construction of 42 miles of 66 K.V. line within Mysore territory at an estimated cost of Rs. 13 lakhs. The capital investment is to be repaid by the Madras Government by revenue from power bills during the agreement period which shall be not less than five years. The departmental scheme, estimated to cost Rs. 50 lakhs, provides for distribution of power over the area covering Tungabhadra dam site, Hagari, Hospet, Hagari-Bommanahalli, Kudligi, Bellary, Guntakal, Alur and Adoni. The original idea included a wider area covering Kurnool, Gooty and Anantapur. But this was found technically not feasible on account of the very long distance of these places from the source of power at Jog. Extensions to these places have therefore to await the Tungabhadra Scheme. If power demand is great in the meanwhile, it will be met from the Kurnool Thermal Scheme provisionally accepted by the Government.

13. *Papanasam Extensions and Madura Thermal Scheme.*—The unfavourable water conditions at Mettur and Papanasam, the issue of more water for irrigation needs from the Papanasam reservoir than originally contemplated, and the increase in demand for power in the hydro-electric areas stressed the need for immediate construction of a thermal station to augment the supply from the Papanasam power house. It was, therefore, decided to divert to Madura the 4,000 K.W. set planned originally for erection at Nayudupet to serve the needs of the Nellore area. A revised report for the Papanasam II stage extensions providing, amongst others, for the installation of a thermal station at Madura, and estimated to cost Rs. 183.8 lakhs in ten years was submitted to Government. In April 1946, Government sanctioned the Madura Thermal Scheme costing Rs. 88 lakhs. The scheme contemplates the installation of a 4,000 K.W. set immediately and the addition of an 8,000 K.W. set as soon as possible. The 4,000 K.W. set is expected to be commissioned in 1947.

14. *Transmission and distribution lines.*—Along with the above major schemes, considerable expansion of the transmission and distribution lines has been planned, among the more important of which are—

(1) Erode-Trichinopoly-Dalmiapuram 110/66 K.V. line;
(2) Erode-Salem 110/66 K.V. line;
(3) Tanjore-Mayavaram-Chidambaram 66 K.V.-33 K.V. line; and
(4) Conjeeveram-Chingleput-Arkonam Extensions.

15. *Investigations.*—Investigation of a hydro-electric site in South Kanara and of Lammasinghi and Chettipet sites in the Andhra area will be taken up during the year provided staff is available.

Progress on construction work was considerably handicapped by the difficulty in securing sufficient numbers of civil engineers. This difficulty will continue until graduates come out of the newly started Engineering colleges. In the meanwhile, the available civil engineers have to be rationed out among the works in hand in the Province according to their importance and urgency.

16. *Electricity buildings.*—Plans and estimates for a separate building to accommodate the offices of the Electricity department are being finalized by the Public Works Department and early commencement of the work is expected. In the meanwhile considerable inconvenience and delay in transaction of business are being experienced as the offices of the department are located at five different places in the City.

17. *Electricity Department Journal.*—The first issue was published in April 1946. The journal promises to be a useful medium for imparting information to the departmental staff on the activities of the various branches and on the technical and operational experience which is constantly being gathered.

The Superintending Engineer (Technical) was the Editor of the journal for the first issue, but as he did not have sufficient time to be devoted to such work, the editorship has been transferred to the Chief Electrical Inspector to Government.

18. *Indian Electricity Act and Rules and Cinematograph and Electricity Duty Acts and Rules.*—The administration of these Acts and Rules was generally satisfactory.

The year under review was another—perhaps the last—difficult year for the licensed undertakings owing to the continuance of the wartime restrictions and controls. The Restriction and Control Orders over supply of electricity to new consumers were, as per Government of India's proposals, relaxed by Government to a certain extent, about the end of the year. Under this relaxation, although the permit system will continue, supply to domestic services to the extent of the monthly quota fixed by the Government of India, and to street lighting and small industries will be permissible.

All A.R.P. restrictions were completely removed during the year.

A war costs surcharge order for licensees' undertakings, in lieu of the war condition surcharge (which was permitted to be levied by 39 licensees during 1945–46) was issued in March 1946.

There was no change in the number of electric supply undertakings. The conditions of supply were normal except for major interruptions due to (i) engine troubles in the generating stations at Cuddapah, British Cochin, Calicut, Cannanore, Kurnool, Proddatur, Kollegal and (ii) a cyclone in Masulipatam and Cocanada areas. The Hospet power station continued to remain closed during the year.

In the interests of more efficient regional development proposals for the acquisition of the Kollegal, Hindupur and Kurnool undertakings have been put up to Government. The proposal regarding Kollegal undertaking has been sanctioned.

Notice of acquisition of the Madras Electric Supply Corporation undertaking in 1947 has already been served on the licensee. The question of acquiring the suburban panchayat undertakings in the Madras area—Sembium, Villivakkam, Tiruvottiyur and Alandur—is also under the consideration of the department.

The Sembium Panchayat area having been merged within the limits of the Madras Corporation, a permit under section 28 of the Indian Electricity Act was issued to the Corporation of Madras to enable them to distribute power in the area covered by the former Sembium Panchayat.

This was the seventh year of working of the Duty Act. The revenue from this source was Rs. 8·04 lakhs.

The total number of accidents, including those on lines owned and operated by Government was 112 of which 56 were fatal.

Four hundred and ten cinemas were functioning at the end of the year as against 367 during the previous year.

19. *Electricity (Supply) Bill,* 1946.—The Government of India introduced in the Central Legistlative Assembly, in February 1946, a bill called " The

Electricity (Supply) Bill, 1946 " providing for the rationalization of the production and supply of electricity and generally for taking measures conducive to the electrical development of India. It empowers the Provincial Governments to set up Electricity Boards for the administration of all matters connected with electricity generation, transmission and distribution.

The Bill has been republished by the Madras Government in the *Fort St. George Gazette* and public opinion on the Bill invited.

20. *Future development policy.*—The trend of public opinion is towards State ownership and management of all public utilities especially electrical undertakings. So far as the Madras Province is concerned, the Government had long ago foreseen and laid down the policy of generation of electricity by the State in a series of large central stations, hydro-electric and thermal. As a consequence, the Electricity department is now responsible for 79 per cent of the total generation in the Province. With the acquisition, in 1947, of the Madras Electric Supply Corporation undertaking which accounts for 19·5 percentage, only 1.5 per cent of generation will be left in the hands of the licensees.

The policy of Government regarding power licences is to take them over as and when they expire and not to grant any new licences. Distribution of electricity in all non-licensed areas will be by the State thereby ensuring the ultimate nationalization of generation, transmission and distribution of electricity.

Electricity has a vital part to play in the expansion of agriculture, large scale and cottage industries, and the development of rural areas which is essential for the improvement of the standard of living of the masses. The convenience and benefits of electricity for the day to day life in every household are being increasingly recognized by the villagers and it would not be long before every village in the Province insists that electricity be extended to it directly by the State or through whatever agency the Government have imposd on the villages by grant of licences in the past.

There is already a heavy demand for power and it will be on the increase in the coming years. To meet it, not only should the post-war schemes outlined above be completed as early as possible but fresh schemes investigated and taken up in time, so that the State may duly discharge its obligations to provide the public with all the electricity it needs cheaply and in abundance.

21. *Foreign training.*—In pursuance of the scheme approved by Government for higher technical training abroad for departmental Engineers, Sri C. S. Avadhani, officiating Assistant Engineer, was relieved in March 1946 for proceeding to England for training with the English Electric Company.

Sri B. S. Murthi, Chief Accountant, was also deputed for training in the commercial and administrative side of electricity supply industry in the United States of America under the scheme sponsored by the Electrical Commissioner with the Government of India.

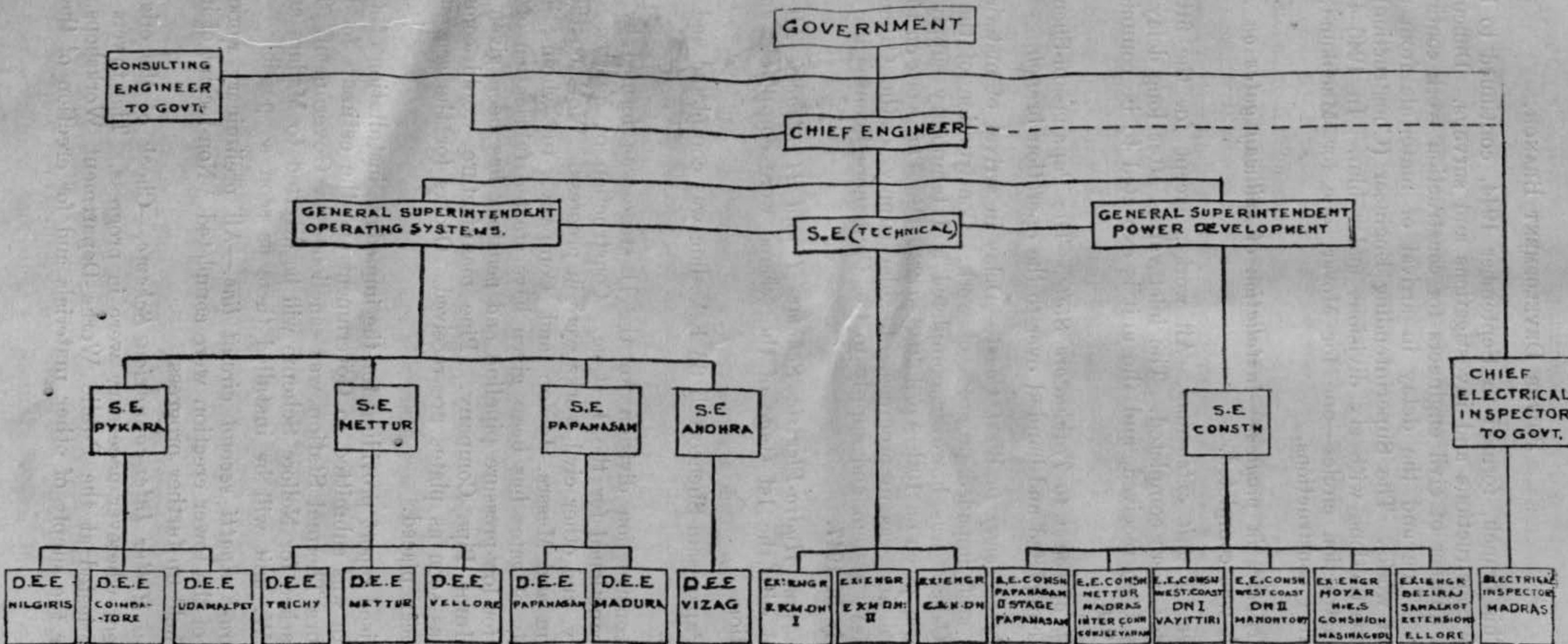
22. *Organization and administration.*—The chart on the opposite page indicates the organization of the department as sanctioned by the Government in 1944. Proposals for the delegation of powers to the Chief Engineer and the General Superintendents, Power Development and Operating Systems, submitted to Government by this department had not been sanctioned until the end of the year under review. In the circumstances the reorganization had been functioning as satisfactorily as it could under the existing conditions. With the sanction of the delegation of powers and further experience, the department as reorganized, with some modifications that may be necessary in the light of experience, is expected to be able to cope with the rapid expansion of work in the department and the development programme before it.

The valuable advice of Sir Henry Howard, Consulting Engineer, will continue to be available to the department as the Government have extended his contract for two years from 1st March 1946.

The entire staff put in hard and willing work in spite of the very difficult living conditions which continued due to the effects of the war.

Detailed report on the activities of the different branches of the department are given in Section II.

ORGANISATION CHART OF THE ELECTRICITY DEPARTMENT AS ON 31-3-1946.



SECTION II—DETAILED REPORT.

POWER DEVELOPMENT BRANCH.

23. This branch, formed in September 1944, continued to be in charge of all major constructions and investigations and surveys. Difficulty in obtaining sufficient number of civil engineers for construction work continued throughout the year. This and the delay in arrival of materials from abroad impeded pogress of works. The Superintending Engineer (Construction) was in charge of all constructions with six divisions under him. In 1946–47 there will be three construction circles—one for Moyar, one for Machkund, and the third for all other constructions.

24. *Schemes in progress—Installation of spillway gates on Mukurti dam.*—The work was completed.

Mettur IV unit extensions.—All works, except for the fitting of the two inlet valves, were completed. The inlet valves after long delay in manufacture have now been received, and the unit is expected to be commissioned by September 1946.

Supply of power to Travancore State.—The Papanasam-Shencottah 66 K.V. line was completed and handed over to the operation branch.

Supply of power to West Coast.—Delay in arrival of materials and want of adequate staff impeded progress of work. Construction of the line from Singara to Calicut was however completed and temporary supply to the Calicut licensee was given on 10th April 1946 at 22 K.V. The work on the Kuthamunda-Cannanore line was in progress. Regular supply to the Calicut licensee over the 66 K.V. system and supply to the Cannanore licensee are expected to be given early in 1947.

Papanasam Hydro-Electric Scheme—I and II stages.—All residual works connected with the 1st stage of the scheme were completed and handed over to operation.

The Papanasam-Shencottah 66 K.V. line was completed and handed over to operation.

The construction division for the II stage was formed by continuing the division sanctioned for the I stage. Construction of quarters, permanent and temporary, and other civil works were in progress. Work on the surplus course was begun and Messrs. Jessop and Company, to whom the contract for the supply of gates has been given have started fabrication of the gates. The contract for low-pressure pipeline and penstock has been given to Messrs. The Indian Hume Pipe Company. Pipe manufacture would commence early in 1946–47 as soon as plates are received. Orders for the generating plant have already been placed.

A revised report providing for the immediate installation of a thermal station at Madura was submitted to Government and the estimate for Rs. 88 lakhs for the Madura Thermal Station was sanctioned by Government. The 4,000 K.W. set earmarked for Nellore Scheme will be diverted to Madura and an additional 8,000 K.W. unit will be installed there as soon as possible.

Madura-Koilpatti second circuit line.—All preliminary works and about 60 per cent of the tower erection were completed. Non-receipt of insulators for the line has held up further progress.

Madras-Mettur Inter-connexion Scheme.—Check of the original survey and realignment wherever necessary were in progress. The towers for the line are being fabricated at the Public Works Department Workshops, Madras. Contracts for the supply of other materials and for erection of the line have been awarded.

Bezwada-Rajahmundry-Samalkot extensions.—Survey of the line was completed. The towers for the line are being fabricated at the departmental workshops at Mettur. Preliminary works at the Bezwada Thermal Station were also taken up. Orders for the transformers, generators and boilers have been placed.

25. *New sanctioned schemes.*—The following schemes were sanctioned during the year:—

(1) Vizagapatam power house extensions.
(2) The Moyar Hydro-Electric Scheme.
(3) The Madras thermal station extensions.
(4) The Machkund Hydro-Electric Scheme.
(5) Madura Thermal Scheme.

Vizagapatam power house extensions.—Estimated to cost Rs. 22.91 lakhs initially rising to Rs. 27 lakhs in five years.

These extensions providing for the installation of two 1,500 K.W. turbo-alternator sets, etc., were sanctioned by Government in December 1945 to meet the demand of the Chittivalsah and Nellimarla Jute Mills, additional load of the ship-building yard, and other load development in the Vizagapatam area. The generating plant and transformers have been ordered.

The Moyar Hydro-Electric Scheme.—Estimated to cost Rs. 193·1 lakhs initially rising to Rs. 265·2 lakhs by 1952.

This was taken up in November 1945. Preliminary works and detailed investigations connected with the construction of roads, camps, water-supply and drainage works were in progress. Contracts for the construction of camp buildings have already been awarded and specifications and tender sets issued for certain other buildings. Enquiries have been issued for the supply of pipes and machinery. Pipes and fittings for water-supply had not been allocated till the end of the year, by the Steel Controller, although the indent was placed some months ago. The delay is impeding progress. The circle with headquarters temporarily at Ootacamund was formed in May 1946.

The Madras thermal station extensions.—Estimated to cost Rs. 110.25 lakhs initially rising to Rs. 244·17 lakhs in ten years.

Messrs. Merz and McLellan have been appointed Consulting Engineers for the preparation of designs and specification and for supervision of execution. Orders for boilers have been placed and the first boiler is expected to be steaming in August 1948. Tenders have been called for the turbo-generator set.

The Machkund Hydro-Electric Scheme.—Madras Government's share estimated to cost Rs. 420·11 lakhs initially rising to Rs. 587·6 lakhs in ten years.

The scheme was sanctioned in April 1946. Steps to form the Advisory Committee contemplated in the agreement with the Orissa Government are being taken. Sanction to the skeleton staff required for the immediate commencement of the preliminary works was received in June 1946.

The steps to be taken for the commencement of the scheme were discussed at a conference at Jeypore in June 1946 with Orissa Public Works Department, Revenue and Jeypore Estate authorities and the measures to be adopted decided on.

The Circle and the Division office for the scheme are expected to be formed by the middle of 1946–47 and civil works would be in progress during 1946–47.

Papanasam Extensions and Madura Thermal Scheme.—In April 1946 Government sanctioned the Madura Thermal Scheme costing Rs. 88 lakhs. The scheme contemplates the installation of a 4,000 K.W. set immediately and the addition of an 8,000 K.W. set as soon as possible. The 4,000 K.W. set is expected to be commissioned in 1947.

26. *Programme for* 1946–47.—The West Coast extensions, the Mettur IV unit extensions, Madura-Koilpatti II circuit line, will be completed and handed over to operation.

Machkund.—Local roads, camps, detailed investigations, anti-malarial work, acquisition of tools and plant, organization of transport and stores, arrangements for construction power supply, and other preliminary works will be in progress on the Machkund Scheme.

Civil works on the Vizagapatam plant extensions will be in progress.

About 75 per cent of all the preliminary and civil works on the Bezwada-Rajahmundry extensions will be completed. Erection of the towers will be in progress as also the civil works at the Bezwada power house. The machinery from the United Kingdom is expected to be received and erected only in 1947–48.

Ceded Districts and Nellore.—The Ceded Districts and Nellore Schemes will be in progress.

Madras thermal.—Subject to foundation plans being received in time, a small amount of field work is possible to prepare ground and collect materials for the Madras plant extensions. About 75 per cent of all preliminary and civil works on the Mettur-Madras line will be completed.

Moyar and Pykara.—The Moyar Circle will be shifted to the field as soon as accommodation there is ready. The power line for the supply of power for construction works at Moyar is being constructed by the Operation Branch. The works at Moyar and erection of the Pykara-Moyar-Erode line will be in progress. Preliminary work on the Pykara dam will be on.

Papanasam.—All civil works connected with the Papanasam plant extensions will have been almost completed. Erection of the gates at Tambraparni dam will be well advanced. The manufacture of low pressure pipes, surge tanks, etc., by the contractors will be in progress and erection of the pipeline will be completed about 50 per cent. Construction work on the Madura thermal station will be in progress.

Investigations.—Investigations of the hydro-electric sites in South Kanara and Andhra areas will be in hand if staff is available.

The above programme has assumed availability of sufficient civil engineers, materials and transport facilities. Transport facilities, though far from satisfactory at present, are showing signs of improvement. With the end of the war and reduction of demand for men and materials in the military, conditions are expected to improve soon. The civil engineering establishment required for this department is being drawn from Public Works Department (General Branch) which has to supply, in addition to its own need, the requirements of the Irrigation and Highways Departments also. Should the supply not meet the demands of this department corresponding delay in the completion of the works as scheduled above will be inevitable. The position is being reviewed from time to time and the needs of the department and the urgency of the works explained to the Chief Engineer (General). If any difficulty is experienced in the matter, Government will be duly advised of the position so that they may take suitable action to ensure progress of the Machkund Hydro-Electric Scheme and other important works.

OPERATING SYSTEMS BRANCH

27 An increase in demand on the power systems and the revenue earned was recorded during the year under review notwithstanding the continuance of the restrictions and controls, the water shortage in the hydro-electric area and the overloaded condition of the thermal stations. Services and supplies were maintained as satisfactorily as conditions permitted.

There was a severe cyclone in the East Coast in October 1945 and the Bezwada system sustained some damage to its lines and distributions.

In the hydro-electric area, water shortage in the Mettur reservoir was acute due to the early issues of water for irrigation in May 1945 to assist the Grow More Food Campaign, the late onset of the south-west monsoon and the feebleness of the north-east monsoon. The Mettur power house had actually to be closed down from 16th to 30th January 1946, the lake level having gone down below the limits of power generation. However, supply over the whole system was continued without much inconvenience to consumers or dimunition in production, by availing relief from Pykara and enforcing a system of staggering of loads and of restriction of consumption to the minimum necessary extent.

The water situation at Pykara and Papanasam also caused anxiety in February 1946. An improvement however occurred in March 1946 and this averted the imposition of restrictions in the two systems, and also enabled some relaxation of the restrictions that had been imposed in the Mettur system.

The war costs surcharge scheme which had been under the consideration of Government during the last year was sanctioned by Government in November 1945 authorizing the Electricity department to levy a surcharge on all its consumers, including licensees, at 10 per cent in the hydro-electric area and at 20 per cent in the thermal areas. The surcharge is to cover the increase in operation and maintenance expenses that had occurred due to the war. To ensure uniformity of high tension rates in the areas served with Government power direct by this department or through the licensees and with reference to representations received from certain licensees, Government permitted the licensees obtaining bulk supply from this department to levy on all their high-tension consumers the same surcharge as levied by this department on its high-tension consumers.

The war costs surcharge superseded the 5 per cent surcharge on high-tension industrial consumers which the department was levying previously. For the duration of the levy of the war costs surcharge, the fuel surcharge payable by consumers in thermal areas will be inoperative.

A general war costs surcharge order for licensees' undertakings was issued by Government in March 1946.

Detailed reports in respect of the operating systems are given below:—

PYKARA SYSTEM.

28. The year under review was the thirteenth year of operation of the system. The peak load of the system reached 27,150 K.W. against 26,600 K.W. in the previous year. The Pykara power house peak load reached a figure of 38,300 K.W. when affording relief to Mettur and with the Madura 22 K.V. loads on the Pykara system, as against 30,300 K.W. in the previous year with Madura and beyond on the Pykara system. The units generated totalled 173.11 millions against 159.59 millions in the previous year. These figures are exclusive of purchases from Mettur amounting to 1.27 millions and from Papanasam amounting to 3.59 millions, but include sales to Mettur and Papanasam.

During the whole period of acute power shortage at Mettur and Papanasam, the Pykara power station proved itself a tower of strength and gave much needed relief to the sister systems.

The units distributed and sold during the year were 158.07 millions as against 129.5 millions in 1944–45.

The revenue earned was Rs. 53.03 lakhs showing an increase of Rs. 3.35 lakhs over that of the last year.

The total connected load on the system was 67,459 K.W. against 65,429 K.W. in the last year representing an increase of about 3 per cent.

An industry for manufacture of mill machine parts in Coimbatore requiring about 1,000 K.W. is contemplated by the South India Mill-Owners' Association and the power required has been promised.

The Madukkarai Cement Works continued to be the largest individual consumer. There was a labour strike here from 31st March to 15th May 1946.

The engines at the Calicut licensee's station were in a bad state and conditions became critical early in March. The 66 K.V. line from Pykara to Calicut was ready at the time but the step up and step down transformers had not been received. To meet the critical situation at Calicut the lines were charged at 22 K.V. from Pykara and temporary supply to Calicut was afforded through a 22/11 K.V. sub-station at the Calicut end. Power up to 500 K.V.A. is thus being given, pending installation of the 66 K.V. transformers and this is sufficient to meet the immediate needs of the licensees.

During the year under review 161 extensions were sanctioned at a total estimated cost of Rs. 5.04 lakhs. Two hundred and eighteen agricultural pump-sets with a connected load of 965 K.W. were connected up bringing the

total to Nos. 2,902 and 12,998 K.W. Thirty-six small industrial services with a connected load of about 335 K.W. were connected up making up a total of 254 services with 4,370 K.W.

The design of the distribution system was carefully studied and several proposals for improvement to meet the increased load demand in the area, were adopted.

29. *Load development.*—The following table shows the growth of load and revenue since the commencement of operation of the system:—

Year.	Peak load in K.W.	Number of units generated in millions.	Gross revenue (including miscellaneous) in lakhs of rupees.
1933–34	3,150	10·9	4·4
1934–35	6,600	30·0	10·5
1935–36	10,100	50·3	16·3
1936–37	14,900	75·6	24·0
1937–38	17,200	82·4	27·6
1938–39	17,900	84·3 *plus* 16·8‡	*31·0*
1939–40	24,900	114·7 ,, 3·81‡	38·5
1940–41	26,200	136·13 ,, 0·67‡	42·7
1941–42	28,900	156·57 ,, 0·025‡	49·4
1942–43	30,600	165·14 ,, 2·38‡	52·52
1943–44	31,000	165·74 ,, 7·78‡	56·6
1944–45	26,600 *	158·59* ,, 2·86‡	49·7‡
1945–46	27,150 †	173·11 ,, 1·27‡ ,, *3·59* §	53

* Decrease due to transfer of loads of Madura and beyond to the Papanasam system.
† 38,300 K.W. including relief given to Mettur and Papanasam.
‡ Units purchased from Mettur.
§ Units purchased from Papanasam.

30. *Financial results.*—The following figures show the financial working of the system for 1945–46:—

	RS. IN LAKHS.
1 Capital outlay including arrears of interest	341·1
2 Gross revenue	53·03
3 Operation and maintenance expenditure	10·77
4 Depreciation fund	7·26
5 Special reserve fund	2·91
6 Total expenses	20·94
7 Net revenue	*32·09*

The above figures do not include suspense. Net amounts to the credit of reserve funds after operation in the course of the year are as below:—

	RS.
(1) Depreciation Fund	54,85,010
(2) Special Reserve Fund	21,95,212

31. *Connected load.*—The connected load in the system at the end of the year under the different categories was as follows:—

Serial number and description of load.	Connected load in K.W. on 31st March 1946.
1 Licensees	14,490
2 Industrial—	
(*a*) Textiles	22,917
(*b*) Cement works	3,752
(*c*) Chemicals	402
(*d*) Mines	283
3 Cordite Factory	1,177
4 Tea factories H.T.	3,953
5 Agricultural	12,998
6 Miscellaneous	7,487
Total ..	67,459

32. *Water conditions.*—The rainfall for the year under review and for the preceding year are given below:—

	1944–45.	1945–46.
Mukurti	68·6″	73·45″
Glen Morgan	62·82″	65·95″

The four 11-feet permanent gates for Mukurti were received during the year and erected by May 1946.

33. *Important works carried out.*—The erection of the 11 K.V. truck gear control cubicle for the primary control of No. 3 2,000 K.V.A. transformer at the Pykara power house and remote control panel for the same was completed and the 2,000 K.V.A. transformer commissioned satisfactorily.

In order to release the 500 K.V.A. 22 K.V./11 K.V. transformer supplying the Devarshola loads for the Periyanaickenpalayam 22 K.V. changeover, the old method of supply through the 11 K.V. indoor feeder cubicle from the 11 K.V. feeder was reverted to.

Overhaul of the No. 3 7,810 K.V.A. transformer at the power house by hot air treatment and replacement with fresh oil was carried out successfully and the I.R. value of the transformer definitely improved. In the case of Nos. 1 and 2 transformers, however, similar detailed overhaul could not be completed on account of the emergency at Mettur necessitating the servicing of all the power transformers and keeping one as a spare. The oil alone in these two units was replaced with the oil released from the 110 K.V. transformer O.C.Bs. and there has been some marked improvement in I.R. value though not to the required extent.

34. *Glen Morgan power house.*—The generating units were run at regular intervals and kept in working condition. Two out of the 3, numbers 375 K.V.A. 400 V/11 K.V. step-up transformers and the two 11 K.V. feeder cubicles from Glen Morgan power house have been dismantled and transported to Rajahmundry in connexion with supply to the Ramapadasagara exploratory works.

35. *Camps.*—The Singara and Glenmorgan camps were maintained satisfactorily. The construction of three F-type quarters at Singara was almost completed.

The general health of the population was fairly good. In spite of the anti-malarial activities the incidence of malaria at Singara camp still remains high being 5,800 cases in 1945–46 as against 6,700 in 1944–45.

36. *E.H.T. Sub-stations.*—The following is a list of the 5 E.H.T. sub-stations in the system, with an aggregate transformer capacity of 67,750 K.V.A.:—

Serial number and name of station.	Aggregate transformer capacity. K.V.A.
(1) Kattabettu	2,000
(2) Coimbatore—	
66 K.V. autos	18,000
22 and 11 K.V. power	35,000
(3) Tiruppur	5,250
(4) Udumalpet	5,250
(5) Sembatti	2,250
Total ..	67,750

The operation and maintenance of all the stations were satisfactory.

37. *Coimbatore receiving station.*—(1) The rearrangement of the 22 K.V. kiosks on the same lines as for the 11 K.V. kiosks was completed in all respects.

(2) A new 5,000 K.V.A. Ferranti transformer (seventh unit) was received, transported to site, assembled and transformer commissioned satisfactorily on the 11 K.V. side. The tap changing panel for the new transformer was also completed. The entire work was done departmentally.

(3) Extension of the 11 K.V. bus and rearrangement of the 11 K.V. kiosk redistributing the loads on the four transformers on the 11 K.V. side was carried out. Erection of a new 11 K.V. kiosk to control the new transformer and the remote control panel for the same was completed.

(4) The staggering of the 11 K.V. mill loads could not be relaxed this year as the additional 11 K.V. transformer was commissioned only in December 1945 by which time the emergency at Mettur had cropped up necessitating keeping down the peak load of Pykara station.

Except for the strikes of short duration in the following mills the labour situation was normal:—

(1) Sarada Mills.
(2) Coimbatore Spinning and Weaving Mills.
(3) Coimbatore Cement Works.

38. *Sembatti sub-station.*—The No. 3,500 K.V.A. Parsons' transformer was replaced by a 750 KVA J and P unit received from Villupuram and the released transformer was sent to Tiruvannamalai in Mettur system. Proposals for increasing the capacity of all the units to 1,750 K.V.A. were approved and the 1,750 K.V.A. units originally intended for Erode have been diverted to Sembatti. They have been just received at Madras port and will be erected in 1946–47.

39. *Transmission lines and telephone lines.*—The power lines and telephone lines in the system were maintained in a satisfactory condition.

The transmission and distribution lines constructed during the year and the total mileages at the end of 1945–46 were as below:—

Voltage.	Constructed during 1944–45.		Total at the end of 1945–46.	
	Single circuit in miles.	Double circuit in miles.	Single circuit in miles.	Double circuit in miles.
110 K.V.	..	..	..	49
66 K.V.	..	..	..	179
33 K.V.	..	..	..	..
22 K.V.	5·96	..	268·06	81·5
11 K.V.	17·80	..	544·57	57·25

The route length of low-tension lines at the end of 1945–46 was 987.10 miles.

40. *Distributions.*—(1) All distribution transformers and lines and services were maintained satisfactorily. Owing to the rapid increase of load, mainly agricultural, the size of transformers in many sub-stations had to be increased and many new transformer stations added. It was also necessary to reinforce conductors in several sections to meet voltage regulation difficulties.

(2) The Perianaickenpalayam 22 K.V. changeover work is in progress and single ratio distribution transformers have been replaced by double ratio units in all cases except where double ratio units of the requisite capacity are not available. The 500 K.V.A. transformer intended for Karamadai sub-station now at Singara, has been dismantled and is ready for transport. The entire changeover is expected to be completed by the end of 1946–47.

(3) The second stage of the work of providing standard A.B. switch and H.G. fuse control for distribution transformers wherever no controls were provided or where other non-standard controls were provided was completed. The entire work will be completed by the end of 1947–48 as programmed.

(4) A large number of distribution transformers which were in service for more than five years were released, overhauled and put back in service.

The number of new distribution transformers erected during the year and the total aggregate capacity is given in the statement below:—

Number of new distribution transformers erected during the year.	Aggregate capacity of transformers in column (1) including increase in capacities.	Total number of distribution transformers in service at the end of 1945–46.	Aggregate capacity of transformers in column (3).
(1)	(2)	(3)	(4)
36 Nos.	1,740 K.V.A.	385 ..	18397·5 K.V.A.

41. *Extensions.*—The balance of works on the following important extensions hat were begun last year were completed this year:—

(1) Permanent 22 K.V. lines to Sulur aerodrome (however the 22 K.V. upply did not materialize) on account of the cessation of hostilities.

(2) 11 K.V. extension and supply to Devala mines.

(3) Extension to Sennanore Military Hospital at the 10th mile on Coimatore-Siruvani road.

One hundred and sixty-one extensions costing Rs. 5,04,660 were sanctioned by Government during 1945–46 as follows:—

		RS.
93 works costing below Rs. 2,000	.. .. ..	87,920
56 works costing below Rs. 10,000	.. .. ..	2,62,725
12 works costing over Rs. 10,000	.. .. ..	1,54,015
161	Total ..	5,04,660

42. *Interruptions and breakdowns.*—There were six total interruptions to upply to Coimbatore and beyond of duration of one to four minutes. There vas not much inconvenience to consumers as the duration was short.

There were 16 cases of interruptions to high-tension supply of more than hree hours duration each mainly to rural areas.

There was a major breakdown on one of the Pykara-Coimbatore 110 K.V. ines on the evening of 23rd March 1946. Due to wafting of branches of broken rees on the Adderley slopes during a heavy storm, the bottom conductor of one ircuit snapped between towers 91 and 92 and the middle conductor came off rom the suspension clamps. Rectification work was carried out under adverse veather conditions, in difficult country and the line was put back to service y the noon of the 25th. There was, however, no interruption to service in the nterval as the second circuit was all the time in operation.

There was no failure of major equipments except for the breakdown of a ew distribution transformers as below:—

		Numbers.
100 KVA	.. ..	1
75 KVA	.. ..	3
50 KVA	.. ..	1
25 KVA	.. ..	2
10 KVA	.. ..	1
	Total ..	8

43. *Accidents.*—The details of accidents in the year were as below:—

Category.	Fatal.	Non-fatal.	Total.
Employees	1	4	5
Non-employees	17	8	25
Non-electrical (Departmental).	..	6	6
	18	18	36

44. *Commercial activity.*—The demand for agricultural power increased considerably during the year, on account of the food shortage and the "Grow More Food Campaign." Proposals for extension have been submitted wherever easible.

The commercial subdivision is investigating extension of supply to the ollowing places:—

(1) Satyamangalam (Coimbatore district).

(2) Ramapatnam near Pollachi (Coimbatore district).

(3) Kollengode, Koduvayur, Puthunagaram (Malabar district).

(4) The tea estates round about Uppatti, Kuthumunda, Manantoddy.

(5) Extension round about Calicut and Cannanore.

45. *Rural electrification.*—Apart from extensions for agricultural purposes, here has been no electrification of villages during this year on account of the

restrictions on non-essential supplies still in force. Relaxation to domesti and street lighting loads has recently been ordered and rapid expansion may b expected hereafter.

46. *Conversion Fund.*—No hire-purchase loan was availed of by any con sumer during the year.

	RS.
Hire-purchase loan sanctioned during 1945–46 ..	Nil.
Hire-purchase loan disbursed during 1945–46 ..	Nil.
Advance from commencement	12,75,338
Recoveries during the year	1,191
Recoveries since commencement of the system ..	12,64,099

47. *Meter and relay tests and special maintenance.*—Routine testing o meters and relays was carried out as per programme. In addition to the abov the following works were carried out:—

(1) Special pre-commissioning tests on the seventh transformer and i 11 K.V. kiosk at Coimbatore.

(2) Rigging up of a meter testing kit for Coimbatore was completed an rigging up of two similar kits for Papanasam and Andhra system is in progress

(3) Building up of 3 Nos. 1·5 K.V.A. loading transformers for the Andhr system.

(4) A programme of primary injection tests was initiated with a view t check all the connexions and mark the polarity in the terminal on all meterin sets and cubicles.

(5) Provision of indicating lamps at all metering sets just as in the ca of metering cubicles is in progress.

(6) The usual activities of the telephone section, viz., manufacture o telephone spare parts, etc., were continued this year also. Besides 5 Nos isolating transformers for West Coast extension were rigged up based on th experience with Ericcson's isolating transformers the performance of which was gone into in detail incorporating the necessary improvements in the design

(7) An automatic power driven winding machine for winding transforme coils was rigged up and put into beneficial use.

(8) Special investigation tests on performance of single phase meter wa carried out.

Special Maintenance subdivision.—The outturn for the year is as under:-

	NUMBERS.
1 Examination, check-up and issue of transformers after tests and minor repairs wherever necessary to field, etc.	94
2 Periodical overhaul (overhaul once in five years) and minor repairs to distribution transformers	52
3 New transformers examined and assembled and tested after drying out, etc., for stock	62
4 Major repairs to sick transformers	23
5 Overhaul and repairs to P.Ts., C.Ts., O.C.Bs. and metering equipments	14
6 Non-departmental transformers examined, assembled and tested after overhaul	6

7 Oil reconditioned and tested in gallons—

	GALLONS.
(*a*) Departmental oil	8,830
(*b*) Non-departmental oil	595
Total ..	9,425

8 Total number of oil samples tested	..
9 Other miscellaneous tests	2

The work of improvement to transport and testing facilities comprising th following was carried out:—

(1) Laying of light railway track from special maintenance shed to th stores yard.

(2) Erection of plinths and a gantry for loading and unloading transformers.

(3) Erection of a 62·5 K.V.A. transformer with connected switchgear for supplying power for test purposes.

Proposals for extension to the repair shed have been submitted for sanction. The progress of the special maintenance subdivision will be considerably increased when the limitations of space, etc., in the present shed are removed.

48. *Stores.*—There were seven stores in the system during the year including the Central Stores at Coimbatore with a total reserve limit of Rs. 17,50,000. The working of the stores was generally satisfactory. Periodical inspections of the divisional and sub-stores were conducted by the Stores Superintendent with beneficial results, while the stock verifier verified the following stores:—

(1) Tiruppur.
(2) Udamalpet.
(3) Palni.
(4) Theni.

The receipts and issues and balance of stock for the year are given below:—

	RS.
Opening balance	13,67,948
Receipts	14,74,594
Issues	12,72,279
Balance	15,70,263

49. *Administration.*—The Assistant Engineer, Commercial, whose post was revived in September 1944 completed the rationalization proposals of the networks in the three divisions of this system and took up regular commercial activities from July 1945. Two Junior Engineers (Commercial) were posted to assist him, one with headquarters at Coimbatore nad another with Udamalpet as headquarters.

Due to increase in work an additional Junior Engineer was sanctioned and the Assistant Engineer (Electrical) temporarily transferred to Papanasam was brought back.

Proposals for additional staff for the Central Office, Nilgiris division, and for the execution of the large number of agricultural extensions have been submitted.

50. *Programme of work for 1946–47.*—(1) The balance of worksof segregation of rural and industrial feeders and certain improvements to mill lines in Coimbatore, already sanctioned will be taken up and completed.

(2) The 22 K.V. changeover of the Coimbatore-Perianaickenpalayam section, Sembatti-Bodi lines, Madukkarai-Palghat lines, etc., will be taken up.

(3) Reinforcement of conductor on the Madukkarai lines as well as on the Estanes feeder to accommodate additional loads applied for by Madukkarai Cement Works and by C.S. and W. mills will be taken up and completed.

(4) Three Nos. 1,750 K.V.A. transformers received at Sembatti will be erected and the existing three Nos. 750 K.V.A. units transferred to Karur in the Pettur system.

(5) A 5,000 K.V.A. transformer which has been ordered, if received before the end of the year, will be erected as an eighth transformer, so that there may be one separate transformer as spare on both 11 and 22 K.V. sides.

(6) The detailed overhaul of No. (1) and (2) 7,810 K.V.A. transformers at Singara and the auto-transformers (2) and (3) at Coimbatore receiving station are to be taken up and completed as the I.R. values of these units are not up to standard.

(7) The third and last stage in the work of providing independent A.B. switch and H.G. fuse control for individual transformers will be completed.

Besides, a standardized A.B. switch control (and H.G. fuse if necessary) at tap off points depending on the need for each location will be provided after detailed examination.

(8) A good number of major schemes for extensions which have been sanctioned and which are likely to be sanctioned during the year will be taken up and executed as far as the availability of materials permit.

Mettur System.

51. The year under review was the ninth year of operation of the system. The peak-load of the system reached 19,400 K.W. and the units generated were 88·7 millions against 18,915 K.W. and 104·92 millions respectively, in 1944–45. 23·68 million units were purchased from Pykara. The units distributed and sold were 98·8 millions. The drop in generation was due to low water conditions in the Mettur reservoir.

The revenue earned was Rs. 34·39 lakhs showing an increase of Rs. 3·61 lakhs over that of the previous year.

The total connected load on the system was 65,029 K.W. against 58,273 K.W. in the last year, representing an increase of over 11 per cent.

The Dalmia Cement Factory continued to be the biggest individual industrial load in the system closely followed by Mettur Industries and Mettur Chemicals.

Two hundred and eighty-five major and minor extensions costing about Rs. 12·4 lakhs were sanctioned during the year. One hundred and ninety-eight agricultural services with a connected load of 875 K.W. were added to the system during 1945–46 bringing the total to 1202 Nos. and 4,851 K.W. Thirty-six small industrial services totalling 673 K.W. were added bringing the total to 295 and 3,813 K.W.

52. *Power house, water conditions and restrictions.*—Operation of the power house was very satisfactory, except for the shut down of the power house for about 15 days due to low water conditions.

Water conditions at Mettur were very unsatisfactory throughout. The lake reached the phenomenally low level of 676·4 feet on 20th January 1946. The turbines continued to give output, though low, until the level of 678 feet was reached on 16th January 1946 when the station had to be closed down. It was restarted on 30th January 1946 with a lake level of 679·8 feet. The performance of the turbines under the abnormally low head was satisfactory.

During the period of low output and of closure of the power house the supply in the system was maintained by availing relief from Pykara up to 12,500 K.W., the maximum permissible over the Coimbatore-Erode tie line. By adopting staggering of loads and of holidays in mills and imposing restrictions in the maximum demand and consumption on the large consumers it was possible to meet 70 per cent of the system demand and 80 per cent of the consumption during the worst part of the crisis. On the whole there was no serious dislocation or diminution of production among the industrialists or inconvenience among the rest of the consumers.

As the water conditions progressively improved restrictions were gradually removed until from the 1st June 1946 there was none in force, except staggering of holidays.

The Mettur system was in parallel with Pykara for 241 days. A maximum relief of 10,000 K.W. was afforded to Pykara during the short period of 14 days —26th May to 11th June 1945. During all other days Mettur obtained relief from Pykara. The maximum relief afforded by Pykara was 12,500 K.W. in March. The system peak load during the restricted period was 13,200 K.W. on 26th January 1946.

Taking advantage of the low water conditions and closure of the power house a special maintenance programme was drawn up and all the deferred items of maintenance and special items of works, viz., examination of runners, brakes, nozzles and guide vanes, etc., of all the 3 units, examination and cleaning of L.T. bus and civil works on the tail race side cleaning of generator windings, overhauling of draft tubes, emergency gate, etc., were done.

Shifting of station transformer No. 3 to dam lodge was done during the year. Oil cooler nests of transformers 1, 2 and 3 which had been in service for over 5 years were all replaced by company made ones.

One of the 12,500 K.V.A. power transformer was overhauled.

A spare industrial cubicle was installed and connected up to the western half of the 11 K.V. bus in the power house to reduce the load on the eastern side reactor and also to serve as a spare feeder for supply to the Mettur Chemicals and Industries.

Over 70 numbers defective control cables having low insulation were replaced by new ones.

The bus coupler oil circuit breaker on the 11 K.V. bus at Mettur power house was fitted for automatic operation, and is working satisfactorily.

Open discharge arrangement for the cooling water of the power transformers was completed.

53. *Load development.*—The following statement shows the growth of load and revenue since the beginning of operation :—

Year.	Peak load in K.W. of the system.	Units generated in millions.	Revenue. RS. IN LAKHS.
1937-38 (5 months) ..	5,700	17·40	3·45
1938-39	7,700	44·00	11·03
1939-40	10,900	46·49	13·34
1940-41	12,300	60·42	18·19
1941-42	14,000	71·67	21·75
1942-43	15,300*	81·45	24·00
1943-44	16,000†	97·32	27·27
1944-45	18,915‡	104·92	30·78
1945-46	19,400§	88·8 plus 23·68 ‖	34·39

K.W.

* 23,400 Station peak with relief to Pykara.
† 25,200 With relief to Pykara.
‡ 26,120 do.
§ 27,200 do.
‖ Purchased from Pykara.

54. *Financial results.*—The table below gives the financial working of the system for the year :—

	RS. IN LAKHS.
Capital outlay including arrears of interest	216·45
Gross revenue	34·39
Operation and maintenance expenditure	12·03
Depreciation Fund	5·21
Special Reserve Fund	2·09
Total expenses	19·33
Net revenue	15·06

The above figures do not include suspense.

55. *Connected load.*—The connected load in the system at the end of the year under the different categories was as follows :—

Number and category.		Connected load in K.W. on 31st March 1946.
1 Licensees—		
(*a*) Municipal	4,032	
(*b*) Other than municipal	33,945	
		37,977
2 Industrial—		
(*a*) Textiles	5,874	
(*b*) Cement	2,270	
(*c*) Chemicals	1,659	
(*d*) Steel rolling mills	2,408	
(*e*) Other industries	4,694	
		16,905
3 *Tea factories*		..
4 Agricultural		4,851
5 Miscellaneous (*including* Government departments, railways, panchayat boards, domestic lighting and power, etc.)		5,296
Total ..		65,029

56. *Transmission lines and telephone lines.*—The transmission lines and telephone lines were maintained satisfactorily.

About 11·52 miles of 11 K.V. and 0·5 mile of 22 K.V. lines were added during the year bringing the total length of transmission lines to the following :—

Voltage.	Total single circuit. MILES.	Total double circuit. MILES.
66 K.V.	188·5	228·5
33 K.V.	177·9	..
22 K.V.	351·8	..
11 K.V.	414·52	1·75
Total ..	1132·72	230·25

57. *E.H.T. sub-stations.*—There were 24 E.H.T. sub-stations with an aggregate transformer capacity of 46,850 K.V.A. as per list below:—

Serial number and name of sub-station.		Aggregate transformer capacity.	Serial number and name of sub-station.		Aggregate transformer capacity.
		K.V.A.			K.V.A.
1	Erode	3,000	13	Vellore 33 K.V.	2,25
2	Karur	1,000		Vellore 11 K.V.	50
3	Trichinopoly 11 K.V. ..	7,500	14	Chittoor	35
	Trichinopoly 22 K.V. ..	4,000	15	Pakala	50
4	Tanjore 33 K.V.	1,500	16	Ranipet	50
	Tanjore 11 K.V.	1,500	17	Kaveripauk	35
5	Papanasam	1,500	18	Arkonam	1,25
6	Tiruvarur	5,000	19	Conjeeveram 66 K.V. } Conjeeveram 11 K.V. } ..	1,00
7	Negapatam	4,000			
8	Singarapet 33 K.V. ..	1,000	20	Tiruvannamalai 11 K.V. ..	50
9	Kariamangalam	350		Tiruvannamalai 33 K.V. ..	75
10	Tiruppattur	500	21	Polur	20
11	Ambur	1,000	22	Arni	50
12	Vadakothiputty	1,000	23	Vettavalam	60
			24	Villupuram	4,75
				Total	46,85

(All stations of 33 K.V. and above have been included in the list, i.e., 66/11/22 K.V. and 33/11 K.V.).

The operation and maintenance of *all the stations were satisfactory.*

Increase in load at the following *stations necessitated either* the installation of additional transformers or arrangements for **parallelling** spare units as detailed below:—

(*a*) *Villupuram.*—Two 1,750 K.V.A. new units were erected and commissioned departmentally.

(*b*) *Vellore.*—One 1,250 K.V.A. new unit was erected and commissioned departmentally.

The spare units available at Ranipet and Pakala were connected up for parallel service.

Overhauling of the 66 K.V. bushings on Tanjore feeders 1 and 2 at Trichinopoly sub-station and Tanjore oil circuit breaker bushings and bushings of 75 K.V.A. transformers at Tanjore were done during the year.

High-tension power supply was afforded to the Deccan Sugar and Abkari Company, at Pugalur (Karur taluk).

The Dalmia north and south 22 K.V. feeders were formally handed over to Messrs. South Madras Electric Supply Corporation, Trichinopoly.

58. *Distributions.*—There were 205 distribution transformer stations with aggregate transformer capacity of 8,313 K.V.A.

Distribution transformers which were in service for more than 5 years were all overhauled by the territorial sub-station staff.

59. *Extensions.*—The following figures of extensions (major, minor and small extensions) sent up and sanctioned by the Government indicate the volume of work handled by the Commercial subdivision during 1945–46:—

	Number of extensions.	Cost.	Number of the service.	
			Agricultural.	Industrial.
		RS.		
1 Major extensions sent ..	64	15,20,210	775	85
2 Major extensions sanctioned ..	42	9,10,980	470	55
3 Minor, small and miscellaneous extensions	301	5,44,015	218	161
4 Minor, small and miscellaneous extensions sanctioned ..	243	3,29,809	149	119

60. *Commercial activity.*—To cope with the increased work on account of relaxation of the restriction and control orders a commercial subdivision was formed in August 1945 and three junior engineers were sanctioned later to accelerate the programme of work.

61. *Rural electrification.*—Supply to street lighting and domestic services now being permissible, rural electrification which had been at a standstill during the war years, will be revived and supply is expected to be extended to a large number of villages in the coming years.

62. *Accidents.*—There were 29 accidents in all, 12 fatal and the rest non-fatal, as follows:—

Category.	Fatal.	Non-fatal.	Total.
Departmental	1	2	3
Nondepartmental	11	15	26
		Total ..	29

63. *Conversion fund.*—Applications were received from five prospective consumers for the supply of pumpsets and motors on hire-purchase system. Two loans were sanctioned but only one was disbursed. The total amount of loan advanced since the commencement of operation of the system amounted to Rs. 1,29,482 of which Rs. 1,26,043 have been recovered. The amount of loan sanctioned during the year was Rs. 1,365.

64. *M.R.T. and special maintenance work.*—The volume of work turned out by the M.R.T. subdivision is given below:—

	Items tested.	Number tested in 1945-46.		Items tested.	Number tested in 1945-46.
1	Single-phase new meters	758	5	H.T. Meter ..	108
2	Single-phase old meters	2,929	6	Relays ..	233
3	3-phase new meters ..	50	7	Miscellaneous tests ..	678
4	3-phase old meters ..	149			
				Total ..	4,885

The following are some of the major works handled by the Special Maintenance subdivision during the year:—

(1) Two Nos. 1,750 K.V.A. 66/11 K.V. B.T.H. new transformers were erected and commissioned at Villupuram.

(2) One 1,250 K.V.A. 66/33-11 K.V. transformer was erected and commissioned at Vellore.

(3) One 12,500 K.V.A. transformer at Mettur power house was overhauled, dried out and put back into service.

(4) The 500 K.V.A. M.V. make 66/11 K.V. transformer damaged at Karur sub-station in 1942 was repaired and commissioned at Arkonam.

(5) Four Nos. 500 K.V.A. transformers of Vellore division were overhauled.

(6) Two B.T.H. O.C.Bs. and one 66 K.V. O.C.B. at Trichinopoly and Tanjore respectively were overhauled.

(7) Overhauling of O.C.B. and transformer bushings, overhauling and reconditioning of distribution transformers, rewinding and testing of motors, reconditioning of transformer oil, etc., were done.

65. *Stores.*—The seven sub-stores and the Central Stores at Mettur continued to work satisfactorily. The reserve stock limit of the system was Rs. 20 lakhs for the year.

66. *Workshops.*—The output of the workshops was Rs. 3,21,000 during the year compared to Rs. 1,26,900 in the previous year, registering an increase of 153 per cent. The strength of the labour force was slightly raised during the latter part of the year from 117 to 120. Materials for parallelling of transformers at various sub-stations of this system, stanchions for erection of gates

at Mukurti reservoir, materials for West Coast extensions, viz., 66 K.V. switches, telephone crossarms, guying materials, etc., were all manufactured and supplied during the year.

The Tower Manufacture subdivision was formed in August 1945 for manufacturing and testing of towers and putting up proposals for expansion of the workshops. A Divisional Engineer has been proposed for the charge of the workshops.

67. *Administration.*—The Central office of the system was reorganized by increasing the strength of the clerical and supervisory staff.

68. *Programme for* 1946–47.—The 1,750, 1,250, 2,000* and 2,500* K.V.A. power transformers ordered for Villupuram, Vellore, Mettur Power-house and Negapatam, respectively (*arrived at site) and some oil circuit breakers ordered for different sub-stations will be erected and commissioned departmentally.

Extensions at Tiruppattur, supply to Kuppam, and other extensions and construction of quarters will be carried out.

Manufacture of transmission line towers will be expanded.

To meet the heavy demand for agricultural services, large rural extensions will be undertaken.

PAPANASAM SYSTEM.

69. The year under review was the second year of operation of the system. The third 7,250 K.V.A. unit was put on commercial service on 7th June 1945.

The peak load of the system reached 9,800 K.W. and the units generated were 47·21 millions against 8,700 K.W. and 21·27 millions last year. 7·78 millions were purchased from the Pykara System. The units distributed and sold were 44 42 millions against 39·05 millions last year. A peak load of 14,200 K.W. was reached when Papanasam was parallelled with Pykara.

The revenue earned during the year was Rs. 17·13 lakhs showing an increase of Rs. 4·08 lakhs over the previous year.

70. *Water conditions.*—Water conditions were unsatisfactory. After a review of the combined storages at Mettur, Pykara and Papanasam in March some restrictions were proposed to be imposed in the Papanasam area, but due to local thunder showers conditions improved rendering restrictions unnecessary. In view of the food shortage and the need to save crops suffering from want of water, special issues from the Papanasam reservoir were made during the periods 7th August to 25th September 1945 and 16th to 21st February 1946. The excess water let out was utilized for power development by giving relief to Pykara. A maximum relief of 5,000 K.W. was given to Pykara during the period when a special discharge of 700 cusecs of water was made for irrigation purposes. The water situation was eased by fairly good rains towards the end of March 1946.

A comparative statement of rainfall during the year with that of the previous one is given below:—

Rainfall.	1944–45.	1945–46.
	INCHES.	INCHES.
Dam camp	73·61	60·12
Papanasam camp	52·60	63·19
Papanasam reservoir level—	31st March 1945.	31st March 1946.
Level	820·87 m.c.ft.	805·00 m.c.ft.
Capacity	2,835·50 ,,	2,068·50 ,,

The lowest level recorded in 1945–46 was 761·37 on 16th October 1945, the capacity falling as low as 463·99 m.c.ft.

71. *Power house, dam and civil works.*—The third 7,250 K.V.A. generating unit was put on service on 7th June 1945. The synchronising equipment at Madura sub-station was put in service by making temporary arrangements. By this arrangement the Pykara and Papanasam Systems were run in parallel at Madura for the first time on 13th November 1945. The second regulator valve (English Electric make) was erected and put into commission at the dam on 21st December 1945. The conical head of the other valve (Glenfield and

Kennedy make) which had been damaged in service was replaced by one reconditioned at Mettur.

The operation and maintenance of the power station pipeline penstock and of the equipment in sub-station and transmission lines continued to be satisfactory.

72. *Load development.*—The development of load and revenue from the commencement of the operation of the system was as follows:—

Year.	Peak load.	Units generated in millions.	Gross revenue in lakhs of rupees.
1944–45 ..	8,700 K.W. ..	21·265 *plus* 21·979 *	13·05
1945–46 ..	9,800 K.W. † ..	47·212 *plus* 7·783 *	17·12

* Purchased from Pykara.
† 14,200 K.W. Station peak when in parallel with Pykara.

73. *Financial results.*—

	RS.
Capital outlay	186·4 lakhs.
Gross revenue	17,12,770
Operation and maintenance expenses	6,19,810
Depreciation fund	86,233
Special Reserve Fund	34,493
Total expenses	7,40,536
Net revenue	9,72,234

These figures are exclusive of suspense.

74. *Connected load.*—The connected load on the system on 31st March 1946 under the different categories was as follows:—

Number and category.	Connected load in K.W. on 31st March 1946.	
1 Licensees—		
(*a*) Municipal	7,081	
(*b*) Other than municipal	12,248	
		19,329
2 Industrial—		
(*a*) Textiles	4,935	
(*b*) Cement	..	
(*c*) Chemicals	..	
(*d*) Other Industries	1,639	
		6,574
3 Tea factories		..
4 Agricultural		479
5 Miscellaneous (including Government departments, Railways, panchayat boards, domestic lighting and power).		1,684
Total ..		28,066

75. *Transmission lines.*—The total length of the transmission and distribution lines in the system was as under.

It includes 19.014 miles of 11 K.V. line, 0.009 mile of 22 K.V. line and 21.984 miles of 66 K.V. lines constructed during the year.

	Voltage.	Single circuit.	Double circuit.
		MILES.	MILES.
1.	66 K.V.	102·581	70·424
2.	33 K.V.	40·109	..
3.	22 K.V.	351·3	..
4.	11 K.V.	130·770	9·810

The total route length of L.T. distribution lines was 137.56 miles.

76. *E.H.T. sub-stations.*—The number of E.H.T. sub-stations was seven with an aggregate transformer capacity of 24,100 K.V.A. as follows:—

Serial number and name of sub-station.	Transformer capacity in K.V.A.	Serial number and name of sub-station.	Transformer capacity in K.V.A.
1 Madura	12,000	6 Koilpatti	3,000
2 Virudunagar	3,000	7 Tuticorin	3,750
3 Gurumurthinaickenpatti ..	500		
4 Rajapalayam	1,500	Total ..	24,100
5 Sattur	350		

Tuticorin sub-station.—The capacity of the Tuticorin sub-station was increased from 2,500 K.V.A. to 3,750 K.V.A. by the addition of a third 1,250 K.V.A. transformer from Madura which was commissioned in June 1945.

77. *Distributions.*—There were 71 distribution transformer stations with an aggregate capacity of 3,947.5 K.V.A.

78. *Extensions.*—Four major extensions, (1) extension of 11 K.V. supply to the Shencottah licensee in Travancore State, (2) extension of high tension supply to Southern Oil Mills, Virudunagar, (3) extension of supply to Kilkadayam and (4) supply to an airfield in Madura district, were completed.

Supply to the Shencottah licensee was given on 10th December 1945 at a point, within the Madras territory. Supply to the Indian Hume Pipe Company's Factory at Papanasam for manufacture of low-pressure pipes and penstocks for the Papanasam *II* stage construction was given.

Ten major extensions costing Rs. 2,44,700 and 91 minor extensions costing Rs. 1,24,900 were sanctioned during the year.

Forty-three agricultural pump sets were connected up during the year, with a connected load of 160 K.W. bringing the total to 142 Nos. and 479 K.W.

Sixteen small industrial services with a connected load of 240 K.W. were connected up bringing the total to 120 Nos. and 1,276 K.W.

79. *Accidents.*—Twelve accidents occurred during the year as follows:—

Category.	Fatal.	Non-fatal.	Total.
Departmental	..	6	6
Non-departmental	5	1	6
		Total ..	12

80. *Commercial activity.*—A junior engineer for commercial work was sanctioned during the year. A commercial subdivision with headquarters at Madura will be formed in 1946–47.

81. *Rural electrification.*—The total number of villages and townships served directly by the department from the Papanasam System was 41. The number will increase in the coming years, with the relaxation of restriction and control orders.

82. *Conversion fund.*—Three items of hire-purchase loans aggregating to Rs. 10,473–8–0, two in Madura area and one at Melur, were transferred by Pykara to Papanasam System. Of this, a sum of Rs. 8,256–8–0 had been recovered by the end of 1944–45 and Rs. 2,217 was collected during 1945–46. No balance was outstanding at the end of 1945–46 and no new loan was sanctioned.

83. *M.R.T. and special maintenance.*—The M.R.T. and relay section increased its activity by the addition of a transformer overhaul and repairing section. The outturn of the M.R.T. section was—

	NOS.
(1) Oil samples tested	925
(2) Transformers overhauled	30
(3) Telephones attended	91
(4) Meters tested (single phase and 3 phase)	1,214
(5) Relays tested	90
(6) Other instruments tested and repaired	446

The Special Maintenance subdivision carried out the following:—

(1) 66 K.V. bushings oil and compound filled in the power transformers at Virudunagar, Rajapalayam and Koilpatti were overhauled.

(2) Filling medium in 33 K.V. bushings on the transformers at Koilpatti, Virudunagar and Gurumurthinaickenpatti was changed to transformer oil A grades.

(3) 4 Nos. 1,000 K.V.A. transformers, 3 Nos. 500 K.V.A. transformers, 2 Nos. 250 K.V.A. transformers and 10 low-tension distribution transformers were overhauled during the year.

84. *Stores.*—The stores at Pasumalai, Virudunagar and Papanasam were maintained properly.

85. *Administration.*—The system continued to function with two divisions. The Assistant Engineer, Special Maintenance, was transferred to the control of the Superintending Engineer, Pykara Electricity System, in February 1946.

86. *Programme of work for* 1946–47.—Power supply is expected to be given to Messrs. Harvey Mills at Vikramasingapuram and Textile Mill at Viravanallur.

Application for supply of 2,500 K.W. to the cement factory of Messrs. India Cements, Limited, in Tinnevelly district, has been received and proposals are being investigated.

Reinforcement of overhead line and underground cables on 11 K.V. feeders Nos. 2 and 3 from Madura sub-station will be carried out. A new 1,750 K.V.A. transformer will be erected at Madura.

The East Tinnevelly extensions to Srivaikuntam, Tiruchendur, etc., North-West Tinnevelly extensions, extensions to the West Tirumangalam area, and a large number of other rural extensions will be taken up.

ANDHRA POWER SYSTEM.

The Andhra Power System comprises the steam stations at Vizagapatam and Bezwada and the oil engine station at Cocanada with their respective lines and distributions.

VIZAGAPATAM SYSTEM.

87. This was the seventh year of operation of the system. The peak load on the station reached 1,600 K.W. and the number of units generated was 6.55 millions against 1,160 K.W. and 4.77 millions in last year. The number of units sold was 5.78 millions. The revenue earned was Rs. 4.47 lakhs showing an increase of 1.11 lakhs over last year.

2.5 miles of single circuit and 2.5 miles of double circuit 11 K.V. line were constructed during the year. The total connected load on the system was 5,423 K.W. against 4,570 K.W. in the last year representing increase of nearly 19 per cent.

88. *Power house.*—The operation and maintenance was satisfactory. The erection of the IV boiler was completed and unit commissioned in May 1946. The coal position deteriorated in July 1945 the ground balance falling below the danger point set by the Electrical Commissioner with the Government of India. Timely arrival of fresh consignments averted curtailment of loads.

89. *Load development.*—The following table gives the load development and revenue since the commencement of operation:—

Year.	Peak load in K.W.	Energy output in millions.	Units sold in millions.	Gross revenue (including miscellaneous). RS. IN LAKHS.
1938–39	820	1·783	..	0·85
1939–40	1,010	2·490	2·09	1·37
1940–41	1,000	3·001	2·43	1·77
1941–42	908	3·090	2·44	1·91
1942–43	840	2·910	2·32	2·09
1943–44	960	2·641	2·97	2·31
1944–45	1,160	4·774	3·86	3·35
1945–46	1,600	6·55	5·78	4·47

90. *Financial results*—

	RS.
1 Total capital including arrears of interest	30,20,725
2 Gross revenue	4,47,069
3 Working expenses excluding interest and depreciation	3,99,561
4 Net revenue	47,508

91. *Connected load.*—The connected load at the end of the year under the different categories was as follows:—

Number and category.		Connected load in K.W. as on 31st March 1946.
1 Licensees		2,424
2 Industrial—		
(*a*) Textiles		
(*b*) Cement		
(*c*) Other industries	1,663	..
3 Tea factories		1,663
4 Agricultural		58
5 Miscellaneous (including Government departments, military, domestic lighting and power, etc.) ..		1,278
Total ..		5,423

92. *Transmission lines—E.H.T. sub-stations and distributions.*—The table below gives the length of transmission lines in the system:—

Voltage.	Constructed during 1945-46. Single circuit. MILES.	Double circuit. MILES.	Total in service. Single circuit. MILES.	Double circuit. MILES.
33 KV.	..	..	48	..
11 KV.	2·5	2·5	66	10·5

The total length of low-tension lines was 29.65 miles.

The total number of E.H.T. sub-stations was 3 with an aggregate transformer capacity of 1,200 K.V.A. The number of distribution transformer stations was 18 with a total transformer capacity of 810 K.V.A.

93. *Extensions.*—Construction of a double circuit 11 K.V. line for independent feed to shipyard on the existing multicircuit supports was taken up and almost completed. Parallelling arrangements for power transformers at Chittivalsa, Vizianagram and Panubarti sub-stations were sanctioned during the year and taken up.

Supply will be given to oil industries in the Vizianagram area in 1946–47. Supply to the extent of 600 K.V.A. to the Chittivalasa Jute Mills for partial electrification of the mills will also be given, the work being commenced as soon as the power agreement is signed up.

No new agricultural service was connected up during the year. The total number at the end of the year was 10 with a connected load of 58 K.W. The total number of rural industries as on 31st March 1946 was 4 with a connected load of 78 K.W. No new rural industry was connected up during the year.

94. *Conversion fund.*—Against the loan of Rs. 4,000 sanctioned to Sri P. Bangaru Raju towards hire-purchase of pump sets in 1944, Rs. 1,000 were utilized last year and Rs. 774 were utilized during 1945–46.

95. 50 *K.W. emergency station.*—The emergency power house at Suryabagh was closed down on termination of the war. The set has been transferred to Cocanada to serve as standby.

BEZWADA SYSTEM.

96. *General.*—This was the seventh year of operation of the system. The peak load of the station reached 2,500 K.W. and the generation was 10.38 millions against 2,400 K.W. and 10.53 millions last year. The purchase of power from the Kistna Cement Company continued and 0.63 lakh of units were purchased against 0.77 lakh during 1944–45. The number of units sold

was 8·76 millions. The revenue earned was Rs. 5·80 lakhs showing an increase of Rs. 0.93 lakh over last year.

The system continued to operate under severe restrictions in the absence of the third turbo-alternator set which is being reconditioned in England.

The total connected load was 6,982 K.W. against 6,792 K.W. last year registering an increase of about 3 per cent. Thirty-eight agricultural services were connected up during the year with a connected load of 105 K.W. bringing the total to 161 Nos. and 734 K.W. One rural industry with a connected load of 22 K.W. was connected up during the year bringing the total to 17 Nos. and 289 K.W. No hire purchase loan was sanctioned during the year.

97. *Power-house.*—The operation and maintenance was satisfactory. Both the 1,500 K.W. turbo-alternator sets were running in parallel without a standby for several hours a day throughout the year. The stator and rotor of the damaged III unit which had been returned to England for repairs are reported to have been shipped from United Kingdom after being reconditioned. The unit is expected to be commissioned at Bezwada by September 1946.

98. *Load development.*—The following statement gives the load development and revenue since the commencement of operation of the system:—

Year.	Peak load in K.W.	Energy generated in millions of units.	Gross revenue (including miscellaneous). RS. IN LAKHS.
1938–39	530	..	..
1939–40	1,540	4·68	1·89
1940–41	2,000	6·61	2·84
1941–42	2,300	9·12	3·68
1942–43	2,080	8·99	4·11
1943–44	2,420	10·19	6·25 *
1944–45	2,400	10·53 †	4·87
1945–46	2,500	10·38 ‡	5·80

* Larger amount due to miscellaneous revenue from sale of materials.
† Purchase from Kistna Cement Company of 0·77 lakh of units not included.
‡ Purchase from Kistna Cement Company of 0·63 lakh of units not included.

99. *Financial results*—

	RS.
Total capital including arrears of interest	42,91,753
Gross revenue	5,79,916
Working expenses excluding interest and depreciation	5,71,613
Net revenue	8,303

100. *Connected load.*—The connected load on the system at the end of the year, under the different categories was as follows:—

Number and category.		Connected load in K.W. on 31st March 1946.
1 Licensees		4,427
2 Industrial—		
(a) Textiles	..	
(b) Cement	890	
(c) Chemicals	..	
(d) Other industries	810	
		1,700
3 Tea factories	..	..
4 Agricultural		734
5 Miscellaneous (including Government departments, military, domestic lighting and power, etc.) ..		121
Total ..		6,982

101. *Transmission lines—H.T. sub-stations and distributions.*—The table below gives the length of transmission lines constructed during the year and the total in service:—

Voltage.	Constructed during the year. Single circuit. MILES.	Constructed during the year. Double circuit. MILES.	Total in service. Single circuit. MILES.	Total in service. Double circuit. MILES.
33 K.V.	..	..	96·3	1·3
11 K.V.	0·5	..	68·6	..

The total length of L.T. lines in service was 44·337 miles.

The total number of H.T. sub-stations was 7 with an aggregate transformer capacity of 2,650 K.V.A. There were 32 distribution transformer stations with a total transformer capacity of 1,235 K.V.A.

102. *Extensions.*—With the commissioning of the III unit it will be possible to take up a good number of extensions for power supply.

General.—The Bezwada-Rajahmundry-Samalkot extensions will be completed in 1948. Power will be distributed by the department in the East and West Godavari areas as soon as those extensions are completed.

COCANADA SYSTEM.

103. This was the sixth year of operation of the system.

The peak load on the station was 420 K.W. and the number of units generated was 1.4 millions against 350 K.W. and 1.06 millions last year. The number of units sold was 1.27 millions. The revenue earned was Rs. 1.62 lakhs showing an increase of Rs. 0.43 lakhs over that of the previous year. The total connected load was 1,232 K.W. against 1,238 K.W. in the last year. No agricultural service was connected up. The total number of agricultural services in the system remained at 2 with a connected load of 15 K.W. The total number of rural industries as on 31st March 1946 was 8 with a connected load of 93 KW. No new rural industry was connected up during the year.

104. *Power house.*—The station was fully loaded and was unable to take up any additional load. It has been decided to transfer to Cocanada the 50 K.W. emergency set from Vizagapatam. It is also proposed to utilize the surplus power available with the Rajahmundry Paper Mills, after meeting the requirement of the Irrigation Department, for distribution in the East Godavari area. This will not only enable some new loads being connected up but also the Paper Mill supply would serve as a standby to Cocanada in case of emergency and hence would be a distinct improvement over present position.

105. *Load development.*—The following table gives load development and revenue since the commencement of operation of the system:—

Year.	Peak load in K.W.	Units generated in millions.	Units sold in millions.	Gross revenue. RS. IN LAKHS.
1940–41 ..	325	0·77	0·75	0·47
1941–42 ..	360	0·94	0·73	0·76
1942–43 ..	340	0·92	0·84	0·81
1943–44 ..	314	0·86	0·77	0·91
1944–45 ..	350	1·06	0·96	1·19
1945–46 ..	420	1·40	1·27	1·62

106. *Financial results.*—

Total apital including arrears of interest	6,06,717
Gross revenue	1,62,357
Working Expenses excluding interest and depreciation	1,82,864
Net revenue	— 20,507

107. *Connected load.*—The connected load on the system under the different categories at the end of the year was as follows:—

Number and category.		Connected load in K.W. on 31st March 1946.
1 Licensees		837
2 Industrial—		
(*a*) Textiles		
(*b*) Cement		
(*c*) Other industries	145	
		145
3 Tea factories		..
4 Agricultural		15
5 Miscellaneous (including Government departments, military, domestic lighting and power, etc.) ..		235
Total ..		1,232

108. *Transmission lines—H.T. sub-stations and distributions.*—The total length of 11 K.V. transmission lines in service was 55.4 miles and that of L.T. lines 29.8 miles. The number of distribution transformer stations was 14 with a total capacity of 400 K.V.A.

109. *Accidents in the Andhra System.*—There were 13 accidents, 3 fatal and 10 non-fatal. Of these five were departmental, all non-fatal.

110. *Administration.*—Due to increase of technical and administrative work sanction of Government for a Divisional Electrical Engineer for immediate charge of the Bezwada system has been applied for. A commercial subdivision for the Andhra System has also been applied for. The Government have since sanctioned them.

Load survey of the West Godavari area was carried out and a scheme prepared. It is proposed to complete the West Godavari construction by the end of 1947, when the Bezwada-Rajahmundry extensions are expected to be completed.

Government sanctioned, towards the close of the year, the construction of a 20-mile 11 K.V. line from the Rajahmundry Paper Mills to the Ramapadasagar Dam site near Polavaram in connexion with the exploratory works connected with the dam site utilizing the surplus power available with the Paper Mills. The work costing Rs. 1.80 lakhs was executed with the utmost expedition by the Superintending Engineer, Andhra Power System, and the line was energized on 12th May 1946. The maintenance of the lines and equipment will be done by the Andhra System and the cost debited to the Irrigation Department.

111. *Audit accounts and stores.*—Verification of stock in the stores in the different systems was made. The working of the stores and Central offices was generally satisfactory. A third stock verifier was appointed during the year. A separate subdivision for stock verification work has also been sanctioned for the office of the Superintending Engineer (Technical).

TECHNICAL BRANCH.

112. *The Technical Branch* under the Superintending Engineer (Technical) consists of two Electrical and Mechanical Divisions, and a Civil and Hydraulic Division. Throughout the year the branch continued to be very busy with the examination and preparation of reports for proposed constructions, post-war schemes, designs and studies in connexion with civil and electrical works for plant extensions, with other technical problems and correspondence regarding priorities, import licences, etc.

The following are among the more important of the schemes for which reports with estimates were prepared by the Superintending Engineer (Technical):—

(i) Papanasam Hydro-Electric Scheme—II Stage, Revised Report.
(ii) Moyar Hydro-Electric Project.
(iii) Ceded Districts Scheme.
(iv) Nellore Scheme.
(v) Arkonam-Conjeeveram-Chingleput extensions.
(vi) Extension to Kuppam.
(vii) Erode-Trichinopoly-Dalmiapuram 110/66 K.V. extensions.
(viii) Erode-Salem extensions.
(ix) Kollegal Distribution Scheme.
(x) Hindupur Distribution Scheme.

Specifications for the Moyar generating plant and transformers and for other transmission line constructions were issued. Contracts were placed for the IV unit extensions at Papanasam, additional boilers and turbo-sets for Bezwada and Vizagapatam, power transformers required for the Bezwada-Rajahmundry-Samalkot and Mettur-Madras inter-connexion schemes, and for fabrication of towers for transmission lines. Three 80,000-lb. hr. boilers have been ordered of Messrs. Babcock and Wilcox for the Madras Plant Extensions.

Two hundred and sixty-three extensions costing about Rs. 30 lakhs were scrutinized. Materials for operation and maintenance and for extensions were ordered for the value of about Rs. 18 lakhs.

Technical sanction was accorded for 18 schemes carried out by the Electrical Engineer (General). The total amount was Rs. 1.388 lakhs approximately. Thirty-four extensions and electrifications by the department and by the Electrical Engineer (Special) for military authorities aggregating to the value of Rs. 9.318 lakhs were scrutinized.

Primary fire protection proposals for the power-houses and sub-stations estimated to cost Rs. 7.54 lakhs were submitted to Government.

Preliminary estimates for Pericard, Mekadatu and Upper Moyar Schemes were prepared. Hydrometric work and collection computation and recording of rainfall and run-off data for the several basins in the Presidency were continued as usual.

ELECTRICAL INSPECTORATE AND LICENSEE ELECTRIC SUPPLY UNDERTAKINGS.

113. *General.*—There was little progress or development in licensed electric supply undertakings. All the unfavourable factors mentioned in the last report continued during the year even though the war had ended in 1945. The relaxation of restriction and control orders in certain areas of the Presidency was however decided upon towards the end of the year.

During the entire period of war, electric supply in licensee areas taking bulk supply from Government hydro-electric sources had been satisfactory; but failure of the monsoons during the year under review resulting in low water level in the Mettur Reservoir necessitated rationing of energy in the licensee areas using Mettur supply. In the case of some licensees with their own generating stations precarious supply conditions, as in previous years and even more, continued to exist right throughout this year. A heavy storm ravaged the East Coast in October 1945 causing dislocation of supply and damage to property. This resulted in interruption to supply for some days to some of the towns in the East Coast. The supply position of electric bulbs improved during the year and the quota system of allotment of bulbs to licensees and local bodies introduced earlier by the Electrical Commissioner was cancelled. Street lighting could not however be restored to the pre-war level in some towns owing to continued shortage of coal and diesel oil and water shortage in the Mettur Reservoir. The conditions of supply were otherwise generally satisfactory.

During the year under review an Advisory Board was constituted by the Government of India under the Indian Electricity Act for examining the "Recommended Principles for the Control of Public Utility Electric Supply Finance". One of the five seats on the Advisory Board was allotted to the Madras Government. This Government nominated Sri K. V. Karantha, Chief Electrical Inspector to Government, as their representative and he attended two sessions of the committee, one in Calcutta in April and one in Simla in May 1946.

114. *Electrical undertakings.*—The number of electric supply undertakings under the Indian Electricity Act continued to be 81, including 3 [Rameswaram, Tiruchendur and Valparai (Township)] operating under section 28 of the Indian Electricity Act. Thirty-six of these are managed by local bodies and forty-five by private companies—*See* Appendix A.

No new licences under the Indian Electricity Act were applied for during the year nor were any new ones granted. The two latest licences "Ponnani" and "East Coast" which were compelled to be dormant during war had not yet resumed work during the year. The "Ponnani" licensee has applied for power in bulk from Government for starting distribution in his area. The "East Coast" licensee's application for permission to commence work is under consideration (Appendices A-2 to A-4).

Consequent on the amalgamation of the Sembium Panchayat Board (a local authority undertaking) with the Madras Corporation, the Sembium Electric Licence became inoperative and the Madras Corporation has been permitted under section 28 of the Indian Electricity Act to continue supply in the Sembium area, till the Madras Electric Licence expires, or earlier if Government so decide.

The Kollegal and Hindupur Local Authority Electric Supply Undertakings have been working so unsatisfactorily financially and show so little scope for development if continued to be worked on the present restricted scale that the question of load development departmentally on a much larger regional basis was considered and found to be advantageous. The necessary scheme reports were prepared and recommended to Government for sanction.

Details of the capacities of the plant of the generating stations electrical underakings in the Province are given in Appendix B.

115. *Accounts and debentures.*—During the year under report, 35 accounts of company-managed undertakings and 31 accounts of local authorities undertakings were scrutinized and remarks submitted to Government. An application for extending the period of maturity of the debenture already sanctioned to East Tanjore Electrical Undertaking was received and the same was recommended to Government for sanction. The West Ramnad Electric Distribution Company applied for financial assistance of Government for undertaking extensions to rural parts. The application has been forwarded to Government and recommended.

116. *Tariffs.*—In accordance with the terms of bulk supply agreements with Government, general proposals for reduction of rates in the Tinnevelly-Tuticorin, Trivellore and Chingleput licensees areas were approved by Government. No licensee increased his tariff. A list of licensees charging more than 6 annas per unit is given below:—

(1) Adoni, (2) Cuddapah, (3) Chingleput and (4) Kodaikanal.

117. *Restriction and control orders in licensees' areas.*—The number of applications for permits received during the year was 6,018. Of these, 3,111 were for permanent supplies and the rest for temporary supplies. Of the permanent supply applications, 1,878 were sanctioned by Government. The number of applications sent to the Central Electric Power Control Board for loads over 50 K.W. was 36 and the total load sanctioned by the Board was about 4,870 K.W. Towards the end of the year, the Chief Electrical Inspector to Government was empowered by Government to sanction loads in licensees' areas up to 50 K.W. and service connexions costing up to Rs. 500 in each case.

118. *Freezing orders.*—The order served on Madras Electric Supply Corporation and the four panchayat board undertakings that take bulk supply from Madras Electric Supply Corporation, freezing the demand and connected load of the consumers in these systems, continued to be in force during the year. Similar freezing orders were served on 12 licensees taking bulk supply from the Government Electricity department in order to effectively control the demand of those licensees.

119. *Rationing of electricity.*—The restrictions imposed in the preceding years on the working hours of oil engine generating stations continued during the year under review. The feasibility of partially relaxing such restrictions was under study at the close of the year.

Retail rationing of electricity was in force in the areas of three licensees who generate with oil power.

In Madras and in the panchayat areas taking bulk supply from the Madras Electric Supply Corporation, Limited, as well as in the areas of the five licensees who take bulk supply from the Government coal-operated station at Bezwada and in the area of the Cocanada licensee taking supply from the Government oil power stations at Cocanada, retail rationing of electricity continued to be in force.

To ensure continuance of electric supply in case of shortage of coal, a scheme was formulated for the curtailment of electric supply when the coal stocks of the Madras Electric Supply Corporation undertaking get reduced to a danger point. The scheme was finally approved by the Electrical Commissioner with the Government of India in February 1946. The Commissioner of Police and the Collector of Chingleput were furnished with copies of the approved scheme and were instructed by Government to put the same into operation in consultation with Madras Electric Supply Corporation when circumstances demand it.

In August 1945, the stock of coal became very serious due to the non-arrival of the regular consignments owing to a breakdown on the Madras and Southern Mahratta Railway and the stocks were reduced to nine days normal supply. The stocks of Singareni coal were completely exhausted and due to firing the boilers entirely with Bengal coal for the first time, choking troubles started and the capacity of the power-house got reduced to 7,000 K.W. from the normal 17,000 K.W. So portions of traction load, mill load and street lighting load had to be kept off for nearly two days. Timely arrival of Singareni coal however averted a crisis and there was no necessity for the scheme drafted to be actually put into operation.

PEAK LOAD RESTRICTIONS.

120. In the licensees' power-houses at the following places, the generating plants were declared by Electrical Commissioner to be fully loaded during peak load hours and hence additional or new supply from these, however small, was prohibited during peak load hours:—

(1) Calicut.
(2) Cannanore.
(3) British Cochin.
(4) Cuddapah.
(5) Hindupur.
(6) Mangalore.
(7) Rajahmundry.

121. *Diesel oil control.*—The Diesel oil control continued and supply to electrical undertakings was on the basis of a quota determined by the Chief Electrical Inspector to Government.

122. *Hospet power-house.*—This continued to be closed down during the year. An Electrical Engineer has since taken charge at Hospet and arrangements are being made for the transfer of engines from Shencottah to Hospet and re-erection there.

123. *Generating stations.*—The Chicacole Licensees' Power House at Narasannapetta was closed down on 20th March 1945 owing to the breakdown of the only alternator. Due to the cyclone in the East Coast in October 1945 considerable damage was caused in the areas of Bezwada, Masulipatam and Cocanada resulting in breakdown of lines and some interruptions to service. In Cuddapah, British Cochin, Calicut, Cannanore, Kurnool, Proddatur and Kollegal, supply position was very unsatisfactory resulting in prolonged interruptions and/or severe restrictions in supply to consumers. On 28th January 1946, the oil in one of the service tanks in the Cannanore Power-house caught fire. It was brought under control in about 20 minutes and serious damage and loss averted.

124. *Emergency thermal station at Villivakkam.*—This emergency station constructed in 1942 continues to be maintained by the Madras Electric Supply Corporation. The Government have since permitted the Madras Electric Supply Corporation to run the station.

125. *Local authority electric supply undertakings.*—The number of local authorities electric supply undertakings that had Electrical Engineers in charge of their undertakings was 32 since there was no Engineer at Hospet owing to the closure of the power-house. Arrangements for the purchase of engines from the Shencottah Electric Supply Agency for Hospet were made and an Electrical Engineer has been posted to Hospet. For more effective supervision of the work of the Madras Local Authorities Electrical Engineers' Service, the post of Inspector, Local Authorities Electric Supply Undertakings, was created and Mr. K. T. Kuriyan was appointed to that post. He carried out a number of special inspections with a view to improve the working of the local authorities electric supply undertakings.

Attempts to recruit fresh hands to the Madras Local Authorities Electrical Engineers' Service were not successful due to paucity of candidates. Proposals for revision of scales and re-grading of the municipal undertakings were put up to Government and orders have since been issued.

The Chief Engineer (Electricity) was relieved of the control over the Madras Local Authorities Electrical Engineers' Service and Government took over the powers which have been exercised by the Chief Engineer (Electricity).

126. *Surcharges—War condition surcharge (G.O. No. 2408, dated 9th November 1943).*—Thirty-three licensees were permitted to levy war condition surcharge during 1943–44 and 1944–45. During the year under review, the six licensees listed in the margin were permitted to levy the war condition surcharge bringing the total number of licensees permitted to levy this surcharge to 39.

1 Udamalpet.
2 Periakulam.
3 Alandur Panchayat Board.
4 Cocanada.
5 Rameswaram.
6 Tiruvettiyur.

A review of the permitted war condition surcharges was done during the course of the year. Revised surcharges were proposed where necessary. In the case of the five licensees listed in the margin, the review showed that a continuance of the surcharge was not called for in their cases and therefore they were accordingly cancelled by Government. The total number of licensees levying the war condition surcharge at the end of the year was 34.

1 Coonoor.
2 Anantapur.
3 Negapatam.
4 Tiruvottiyur.
5 Madras Electric Supply Corporation.

In the case of each of the licensees, Palani, Carnatic Electric Supply Corporation, Limited, and the South India Electric Supply Corporation, who applied for a war condition surcharge, scrutiny revealed that there was nc case for levy of a war condition surcharge and the applicants were informed accordingly.

War costs surcharge.—The issue of a War Costs Surcharge Order for the licensed undertakings, instead of the war condition surcharge, continued to be under the active consideration of Government during the major part of the year and orders were finally issued on 7th March 1946 in G.O. Ms. No. 641, Government initially issued a War Costs Surcharge Order for Government undertakings in *G.O. No. 2938, dated* 19th November 1945, authorizing the Madras *Electricity department* to levy a war costs surcharge on all their consumers including bulk licensees.

Representations were received from twenty licensees to the effect that the Government order caused considrable hardship in that while licensees were surcharged there was no provision in same for passing on the surcharge to consumers The Government order also created an anomaly with regard to high-tension consumers supplied by licensees and those taking supply from Government, the former having no surcharge. Also the bulk licensees purchasing Government power through another licensee were not subjected to this surcharge. Government amended G.O. No. 2938, dated 19th November 1945 in G.O. No. 585, dated 28th February 1946, so as to remove these anomalies. In this amended order, all the Government power distributing licensees were ordered to levy the war costs surcharge on all their high-tension consumers.

Due to the late issue of the War Costs Surcharge Order, no licensee had been awarded permission to levy a war costs surcharge by the end of the year. The Government have since permitted the levy of surcharge in several cases.

127. *Laboratory.*—The post of Assistant Engineer (Electrical) sanctioned in lieu of the Junior Engineer was filled up and the Assistant Engineer took charge from May 1945. During the year, the supply pressure and meters of 25 licensees were tested. In most of the licensees' areas the supply pressure was found to be varying beyond the permissible limits. Due to non-availability of materials for rectification of defective supply pressures, the limit of permissible pressure variation was relaxed to plus or minus 8 per cent in the case of the following licensees for certain portions of their supply areas:—

(1) Trichinopoly-Srirangam.
(2) Bellary.
(3) Rajahmundry.
(4) Vizagapatam.
(5) Tanjore.
(6) Conjeeveram.

Arrangements were made during the year in the laboratory for testing transformer oil for acidity and 10 licensees availed of the facility.

The total number of tests carried out in the laboratory and at site in licensees areas was as detailed below:—

In the Laboratory.

R.S.S. meters	163	Oil test for acid value	46
Meters other instruments	300	Fire extinguishers	479
Oil tests for di-electric strength ..	228		

At site.

Meters	362	Voltage	200

Of the 163 R.S.S. meters, 82 were from licensees and the rest from Government systems. During the year, 56 licensees sent their sub-standards for test in the laboratory. The revenue realized by the laboratory during 1945–46 was Rs. 9,208 as against Rs. 7,276 realized during 1944–45 indicating increased utilization of the laboratory facilities by the public.

In order to make the laboratory self-supporting, proposals were sent to Government for revision of the fees charged and orders of Government are awaited.

128. *Cinematograph Act and Rules.*—The total number of cinemas in the Presidency at the end of 31st March 1946 was 410 of which 250 were permanent and 160 touring. The table below shows the number of cinemas in the Presidency during the last 10 years:—

Cinemas.

Year.	Permanent.	Touring.	Total.	Year.	Permanent.	Touring.	Total.
1937 ..	157	122	279	1942 ..	236	168	404
1938 ..	189	183	372	1943 ..	239	150	389
1939 ..	190	247	437	1944 ..	234	125	359
1940 ..	223	268	491	1945 ..	236	131	367
1941 ..	228	186	414	1946 ..	250	160	410

All cinemas were inspected during the year. There was no prosecution for any violation of Madras Cinematograph Rules. The scope of inspection by this Inspectorate under Madras Cinematograph Rule 38 has been a matter of some correspondence with Director of Fire Services and Government and final orders have since been issued.

129. *Cinema operators' licence.*—Only one examination was held during the year at Madras for cinema operators. Out of 377 candidates who sat for the examination, 264 came out successful. Since the inception of the examination system, a total of 1,295 candidates have come out successful.

One hundred and nineteen licences were issued during the year and the total number of licences issued to the end of 31st March 1946 was 955.

130 *The Madras Electricity Duty Act*, 1939.—The year under review was the seventh year of working of the Madras Electricity Duty Act and Rules. The actual revenue realized from this source since the Act came into force is as given below:—

Year.	Amount.	Year.	Amount.
	RS. IN LAKHS.		RS. IN LAKHS.
1939–40	5·07	1943–44	5·82
1940–41	6·54	1944–45	7·13
1941–42	6·56	1945–46	8·04
1942–43	5·64		

131. *Expenditure and revenue.*—The total revenue realized under the different heads of account is given below:—

Revenue.	RS. IN LAKHS.
1 From Inspection under the Indian Electricity Act, Cinematograph Rules, Tests and Miscellaneous receipts	0·65
2 From penalty for excess consumption of electricity	2·05
3 From Madras Electricity Duty Act, 1939	8·04
4 From use of Government water for generation of electricity	0·20
Total revenue ..	10·94

The total expenditure of the division for the year under report is Rs. 1,37,800.

132. *Accidents.*—The total number of electrical accidents reported during the year is 112 of which 56 proved fatal. The tables below give a statement of the number of electrical accidents for the last 8 years and an analysis of the fatal accidents during the year.

Table I.—Accidents.

Year.	Fatal.	Non-fatal.	Total.	Year.	Fatal.	Non-fatal.	Total.
1938–39 ..	49	89	138	1942–43 ..	41	69	110
1939–40 ..	44	94	138	1943–44 ..	33	56	89
1940–41 ..	45	87	132	1944–45 ..	59	73	132
1941–42 ..	33	69	102	1945–46 ..	56	56	112

Table II.—Fatal Accidents.

Area in which accidents took place.	Employee.	Non-employ.	Total.
1 Government Hydro-Electric area (Mettur, Papanasam and Pykara Systems) ..	2	33	35
2 Government Thermal System	..	3	3
3 Company Licensees' Areas	3	11	14
4 Municipal Undertakings	2	2	4
Total casualities ..	7	49	56

133. *Staff.*—Sri Rao Bahadur G. Sundaram was confirmed as Chief Engineer for Electricity from 17th December 1944.

Sri M. Subramaniam, Divisional Electrical Engineer, and Sri K. R. Thorvey, Assistant Engineer (Class IV), retired from service.

Sri Rao Sahib G. Yoganandam, who was on leave at the beginning of the year, joined duty as Superintending Engineer (Technical) on 4th July 1945 and Sri Rao Bahadur B. R. Somayajulu was then posted as Superintending Engineer, Andhra Power System. Sri Rao Sahib A. R. Narayana Rao, Superintending Engineer, was transferred from the Andhra System to Mettur and Sri M. B. Kandasami Mudaliyar from Mettur to Madura.

The following promotions were made during the year:—

Serial number.	Name of officer.	Designation of post.	Class, category and service to which promoted.
1	Sri B. V. Ananda Rao ..	Divisional Electrical Engineer.	Category 2 of class I of the Madras Electrical Service.
2	Sri H. Raghavendra Rao ..	Executive Engineer (Civil) ..	Category 1 of class II of the Madras Electrical Service.
3	Sri G. S. Rajan	Do. ..	Do.
4	Sri C. V. Duraiswami ..	Chief Accountant	Class I of the Madras General Service.

The following officers were admitted to the Madras Electrical Service on probation :—

Serial number.	Name of officer.	Designation of post.	Class, category and service to which appointed.
1	Sri T. Lakshm naswami ..	Assistant Engineer (Electrical).	Category 3 of class I of the Madr s Electrical Service.
2	,, B. Gopalakrishnayya ..	Assistant Engineer (Civil) ..	Category 2 of class II of the Madras Electrical Service.
3	,, D. Krishnaswami ..	Do. do. ..	Do. do.
4	,, S. Kumaraswami Nadar	Do. do. ..	Do. do.
5	,, N. S. Ana tanarayana.	Do. do. ..	Do. do.
6	,, S. Chellaswami ..	Assistant Engineer (Mechanical).	Class III of the Madras Electrical Service.

Sri N. Venkataraman was appointed full member of class I-A of the Madras General Service, Chief Accountant, Office of the Chief Electrical Inspector to Government.

We regret to record the untimely death, during the year, of Sri K. Ramamurthi, Divisional Electrical Engineer, and Sri K. V. Krishnaswami Ayyar, officiating Executive Engineer (Civil).

134. *Acknowledgments.*—The Director-General, India Store Department, London, the Electrical Commissioner with the Government of India and the several contracting firms continued to assist the department in various ways and thanks are due to them.

Special thanks are again due to Sir Henry Howard, Consulting Engineer to Government, for his ready and valuable advice on all matters referred to him and for his special notes on the administration of the department and tariffs.

The Chief Engineer has pleasure in placing on record his deep appreciation of the hard and willing work put in by the whole staff of the department.

G. SUNDARAM,
Chief Engineer (Electricity).

APPENDIX A-1.

Electric supply undertakings in service.

(a) Local Authorities.

1 Anantapur
2 Alandur
3 Bellary
4 Bezwada
5 Bodinayakanur
6 Cocanada
7 Coimbatore
8 Conjeevaram
9 Coonoor
10 Dindigul
11 Dharapuram
12 Hospet
13 Hindupur
14 Karur
15 Kollegal
16 Kodaikanal
17 Kurnool
18 Masulipatam
19 Madura
20 Ootacamund
21 Palni
22 Pollachi
23 Periyakulam
24 Rameswaram
25 Sembium
26 Sivakasi
27 Tiruppur
28 Tanjore
29 Tiruvottiyur

(a) Local Authorities—cont.

30 Tiruvannamalai
31 Trivellore
32 Tirupattur
33 Udamalpet
34 Virudhunagar
35 Villivakkam
36 Wellington-Cantonment

(b) Companies.

1 Adoni
2 Ambur-Vaniambadi
3 Anakapalli
4 British Cochin
5 Bobbili
6 Calicut
7 Chingleput
8 Chittoor
9 Cuddapah
10 Chicacole
11 Devakottah
12 Ellore
13 East Ramrad
14 Guntur
15 Gudiyattam
16 Gudivada
17 Kanadukathan
18 Karaikudi
19 Kumbakonam

(b) Companies—cont.

20 (i) Madras
(ii) Madras Port
(iii) Madras Cantonment
21 Mangalore
22 Mayavaram-Mannargudi-Tiruvarur
23 Nattarasankottai
24 Nellore
25 Narasaraopet
26 Negapatam
27 Neikuppai
28 Okkur
29 Ongole
30 Palghat
31 Prodattur
32 Rajahmundry
33 South Arcot
34 Salem-Erode
35 Srivilliputtur
36 Salur-Parvathipur
37 Trichinopoly-Srirangam
38 Tirumalai-Tirupathi
39 Tinnevelly-Tuticorin-Palamcottah
40 Tellicherry-Cannanore
41 Udipi
42 Vizagapatam
43 Vellore
44 Tiruchendur
45 Valparai (township)

Appendix A-2.

Licences under construction—Nil.

Appendix A-3.

New application for licence received—Nil.

Appendix A-4.

List of undertakings put into service during the year 1945–46—Nil.

Appendix A-5.

Licensee who reduced the tariff during the year 1945–46.

Tinnevelly-Tuticorin Electric Supply Co.

Trivellore Panchayat Board.

Chingleput Electric Supply Co.

Appendix A-6.

Licensee who increased the tariff in 1945–46—Nil.

Appendix A-7.

Licensees who charged more than six annas per unit for lighting and fans

Adoni. Chingleput.

Cuddapah. Kodaikanal.

APPENDIX B.

Total capacities of plants installed in electric supply undertakings in service in the Province.

Serial number and name of undertaking.	Total installed capacity of plant in generating station.	Details of plant installed.	Type of prime mover.	Voltage of generation.
		I.—Licensee undertakings.		
1 Adoni	436 K.V.A.	2 × 190 + 1 × 56 K.V.A.	Oil engine	3·3 K.V. (A.C.)
2 Anantapur	152·5 K.W.	2 × 63 + 1 × 26·5 K.W.A.	Do.	400 V. (A.C.).
3 Chicacole	130·75 K.V.A.	1 × 112 + 1 × 20 K.V.A.	Do.	400 V. (A.C.).
4 Bellary	380 K.W. (A.C.). 163 K.W. (D.C.).	2 × 190 K.W. (A.C.)+ 1 × 96+1 × 67 K.W. (D.C.)	Do.	460/500 V. (D.C.). and 400 V (A.C.).
5 British Cochin	147·4 K.V.A.	2 × 46·2 + 1 × 55 K.V.A.	Do.	2·2 K.V. (A.C.)
6 Calicut	1010 K.V.A.	1 × 260 K.V.A. + 2 × 200 K.W, 1 × 100 K.W. + 1 × 125 K.V.A.	Oil engine except 2 × 200 KW gas engines.	3·3 K.V. 11 K.V. and 400 V. (A.C.).
7 Cuddapah	357 K.V.A.	1 × 250 + 2 × 53·5 K.V.A.	Oil engine	400 V. (A.C.).
8 Hindupur	60 K.W.	2 × 25 + 1 × 10 K.W.	Do.	484 V. (D.C.).
9 Hospet	98 K.W.	2 × 40 + 2 × 18 K.W. All three engines broken down).	Do.	400 V. (A.C.).
10 Kollegal	100 K.V.A.	2 × 50 K.V.A.	Do.	400 V. (A.C.).
11 Kurnool	451 K.W.	1 × 40 + 1 × 60 + 1 × 135 ; 1 × 216 K.W.	Do.	3·3 K.V. (A.C.).
12 Madras	51·875 K.V.A.	2 × 1,875+1 × 6,250— 1 × 7,500 ; + 1 × 15,625 + 1 × 18,750 K.V.A.	Steam turbine	5,000 V. (A.C.).
13 Mangalore	750 K.W.	3 × 250 K.W.	Oil engine	3·3 K.V.
14 Narasaraopet	200 K.V.A.	2 × 100 K.V.A.	Do.	420/243 V. (A.C.).
15 Nellore	490 K.V.A.	1 × 64 + 2 × 133 + 1 × 160 K.V.A.	Do.	400 V. (A.C.).
16 Ongole	116·6 K.V.A.	1 × 66·6 + 1 × 50 K.V.A.	Do.	3·3 K.V. & 400 V. (A.C.).
17 Proddatur	96 K.W.	2 × 48 K.W.	Do.	400 V. (A.C.).
18 Rajahmundry	560 K.V.A.	2 × 133 + 1 × 294 K.V.A.	Do.	3·3 K.V. (A.C.).
19 Salur-Parvathipur.	20 K.W.	1 × 20 K.W.	Do.	400/440 V. (A.C).
20 Tellicherry-Cannanore.	680 K.V.A.	3 × 155 + 1 × 275 K.V.A.	Do.	400 V. (A.C.).
21 Udipi	184 K.V.A.	1 × 144 + 1 × 40 K.V.A.	Do.	400 V.
		II.—Government undertakings.		
1 Pykara	38,750	3 × 6,250 2 × 10,000		90,650 K.W.
2 Glenmorgan	900 K.W.	3 × 300 K.W.		
3 Mettur	30,000	3 × 10,000 K.W.		
4 Papanasam	21,000	3 × 7,000 K.W.		
5 Vizagapatam	3,750	1 × 750 K.W. + 2 × 1,600 K.W.		7,460 K.W.
6 Bezwada	3,000	2 × 1,500 K.W.		
7 Cocanada	710	2 × 80 K.W. 1 × 250 K. 1 × 300 K.W.		

APPENDIX C-1.

Table of electric supply costs and records—Company licensees.

APPENDIX C

Table of electric supply costs and re

Serial number and name of undertaking.	Year of operation.	Year of accounts to which the figures refer.	System and supply of voltage.	Total generation or purchase cost per cent.	Working cost per unit sold (*See* Note 2.)	Revenue per	
						Lights and fans.	Power
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				AS.	AS.	AS.	AS.
1 Madras	37th ..	1944 ..	D.C. 450/225 V. .. A.C. 440/250 V. 50 Cycle.	0·43	1·11	3·02	0·81
2 Kanadukathan ..	21st ..	1944–45 ..	A.C. 400/230 V, 50 cycles.	0·62	2·02	4·90	1·55
3 Devakottai ..	21st ..	1944–45 ..	A.C. 400/230 V, 50 cycles.	0·62	2·50	5·18	1·47
4 British Cochin ..	21st ..	1944–45 ..	A.C. 400/230 V, 50 cycles.	1·59 } 3·16 }	6·29	5·83	2·80
5 Trichinopoly-Srirangam.	17th ..	1944–45 ..	Do. ..	0·34	0·71	3·11	0·52
6 Rajahmundry ..	17th ..	1944–45 ..	A.C. 400/230 V 50 cycles.	1·31	3·03	4·95	1·2
7 Calicut	16th ..	1944–45 ..	Do. ..	2·41	4·82	4·76	1·8
8 Karaikudi	15th ..	1944–45 ..	Do. ..	0·67	2·59	4·69	1·40
9 Vellore	14th ..	1944–45 ..	Do. ..	0·59	1·46	3·86	0·9
10 Guntur ..	13th ..	1944–45 ..	Do. ..	0·82	1·89	5·30	1·1
11 Kumbakonam ..	13th ..	1944–45 ..	Do. ..	0·55	2·03	4·40	0·9
12 Nattarasankottai ..	12th ..	1944–45 ..	Do. ..	0·74	2·59	5·36	1·1
13 Salem-Erode ..	13th ..	1944–45 ..	Do. ..	0·48	0·88	6·31	0·8
14 Mangalore	12th ..	1944–45 ..	Do. ..	0·98	2·91	5·31	1·8
15 Palghat	12th ..	1944–45 ..	Do. ..	0·71	2·64	4·12	1·0
16 Tinnevelly-Tuticorin.	12th ..	1944–45 ..	Do. ..	0·47	2·09	5·07	1·11
17 East Tanjore ..	11th ..	1944–45 ..	Do. ..	0·48	1·50	4·09	0·85
18 Nellore	11th ..	1944–45 ..	Do. ..	1·57	4·10	6·16	2·24
19 Tirupathi	13th ..	1944–45 ..	Do. ..	1·60	2·64	3·69	1·13
20 Chittoor	11th ..	1944–45 ..	Do. ..	0·71	2·62	4·58	1·20
21 Negapatam ..	10th ..	1944–45 ..	Do. ..	0·65	1·19	4·23	1·14
22 Okkur	10th ..	1944–45 ..	Do. ..	0·70	3·39	6·47	1·14
23 Proddattur ..	10th ..	1944–45 ..	Do. ..	3·99	9·71	7·15	1·85
24 South Arcot ..	10th ..	1944–45 ..	Do. ..	0·48	1·23	3·84	1·07
25 Vizagapatam ..	11th ..	1944–45 ..	Do. ..	0·99	2·36	4·47	1·3
26 Adoni	7th ..	1944–45 ..	Do. ..	1·67	4·62	6·50	2·0
27 Gudiyattam ..	8th ..	1944–45 ..	Do. ..	0·55	0·83	3·67	0·6
28 Gudivada	8th ..	1944–45 ..	Do. ..	1·27	4·49	5·50	1·4
29 Ellore	8th ..	1944–45 ..	Do. ..	1·23	3·78	3·67	1·3
30 West Ramnad-Srivilliputtur.	7th ..	1944 ..	Do. ..	0·53	0·92	5·06	0·6
31 Narasaraopet ..	7th ..	1944–45 ..	Do. ..	2·44	4·44	5·51	1·3
32 Ongole	7th ..	1944–45 ..	Do. ..	3·70	8·32	8·28	2·01
33 Cuddapah	8th ..	1944–45 ..	Do. ..	2·32	4·58	7·04	1·69
34 Ambur-Vaniambady	8th ..	1944–45 ..	Do. ..	0·67	1·95	4·58	1·04
35 Chingleput ..	7th ..	1944–45 ..	Do. ..	0·71	1·80	5·71	0·96
36 Cannanoore-Tellicherry. ..	7th ..	1944–45 ..	Do. ..	1·74	4·12	5·95	1·19
37 Chicacole	7th ..	1944–45 ..	Do. ..	3·28	6·56	6·18	1·91
38 Bobbili	7th ..	1944–45 ..	Do. ..	1·28	2·03	4·32	1·02
39 Anakapalle ..	7th ..	1944–45 ..	Do. ..	1·42	3·45	5·06	1·54
40 Udipi	6th ..	1944–45 ..	Do. ..	1·96	4·45	7·91	2·24
41 East Ramnad ..	7th ..	1944–45 ..	Do. ..	0·49	0·99	4·92	0·7
42 Salur-Parvatipur ..	6th ..	1944–45 ..	Do. ..	3·66 Parvatipur. 1·44 Salur.	6·93	5·73	1·5
43 Naikuppai	6th ..	1944–45 ..	Do. ..	0·75	2·31	4·76	1·1
44 Ponnani	..	1944–45 ..	Not commenced generation.				
45 East Coast ..	..	1944–45 ..	Not commenced working.				

C-1.

records—Company licensees.

...nit sold.			Total expenditure against revenue.	Revenue from electric supply.	Total revenue from working.	Net profit + or − up to the end of the year.	Total capital expenditure up to the end of the year.
Special contract.	Street lighting.	Total—*See* Note 4.					
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
AS.	AS.	AS.	RS.	RS.	RS.	RS.	RS.
..	1·47	1·33	42,51,370	49,16,995	51,96,954	(+) 7,45,584	2,26,55,042
0·75	1·92	2·42	1,17,962	1,17,732	1,41,613	(+) 23,806	6,09,446
..	1·46	3·00	71,338	70,674	87,295	(+) 18,155	2,47,494
..	3·5	5·93	55,177	44,172	53,612	(+) 1,725	1,21,768
0·05	1·65	0·77	9,63,109	10,00,137	10,51,066	(+) 2,03,251	26,11,894
..	4·00	3·03	1,43,059	1,36,955	1,44,413	(+) 6,097	5,21,344
..	8·63	5·23	2,62,036	2,10,375	2,85,637	(+) 5,364	11,02,165
1·33	1·65	3·04	91,808	1,00,714	1,09,772	(+) 33,144	4,20,647
..	2·736	2·06	1,65,923	2,25,791	2,37,154	(+) 15,679	4,97,721
..	1·93	2·17	2,47,042	2,51,664	2,84,782	(+) 26,463	7,23,338
2·09	1·845	2·23	2,39,977	2,39,720	2,64,861	(+) 20,486	8,44,016
..	1·92	2·93	40,942	39,417	47,266	(+) 43,875	1,68,213
0·62	1·95	1·12	5,10,524	6,31,709	6,76,581	(−) 49,959	10,18,134
..	2·65	3·29	2,29,151	2,41,186	2,62,247	(+) 97,833	8,71,113
..	1·91	3·05	73,031	76,086	84,868	(+) 12,023	2,36,722
2·12	2·37	2·67	3,60,733	4,07,314	4,78,149	(−) 98,503	12,40,761
2·99	1·79	1·50	4,94,290	4,56,655	5,13,272	(−) 67,329	21,60,643
1·85	4·11	4·72	1,07,168	86,093	1,23,475	(+) 17,308	4,50,887
0·49	2·03	2·79	86,924	79,747	1,04,085	30,146	4,57,856
..	3·57	2·90	45,501	48,169	50,468	(—) 13,574	1,33,099
0·66	1·99	1·31	1,49,503	1,38,443	1,64,842	(+) 15,907	3,17,009
1·94	1·63	2·92	64,725	48,851	61,409	(+) 1,851	2,12,100
..	2·86	5·96	31,195	13,915	19,169	(—) 17,244	14,020
0·80	2·03	1·52	3,60,168	4,04,980	4,44,811	(+) 65,656	14,31,849
1·43	3·29	3·04	1,78,795	1,87,289	2,31,219	(+) 16,914	4,50,581
..	3·98	4·91	50,348	42,011	53,590	(+) 3,355	2,32,063
..	3·66	0·89	99,869	1,04,963	1,08,414	(+) 4,551	1,40,309
1·46	5·86	5·21	31,018	24,792	36,572	(+) 8,394	98,879
..	9·83	5·84	43,540	49,139	69,784	(+) 5,430	2,99,898
4·28	3·21	1·08	1,12,399	1,24,897	1,32,256	(+) 80,364	2,12,337
2·69	2·75	4·53	38,987	21,145	40,767	(+) 5,773	1,18,471
2·41	7·68	7·79	23,787	19,841	22,417	(−) 20,293	1,12,004
..	3·28	4·05	66,405	46,946	59,619	(—) 6,370	2,30,621
..	2·00	2·26	59,948	61,321	69,645	(+) 6,206	2,58,622
1·96	2·00	2·16	40,012	45,352	48,701	(+) 3,856	1,23,657
..	4·17	4·02	1,15,095	81,146	1,15,147	(+) 14,396	4,47,733
..	4·63	6·78	29,121	21,713	31,174	(+) 7,452	1,72,659
..	3·34	1·90	30,382	23,391	28,345	(+) 9,646	38,562
..	3·85	3·93	31,115	29,588	35,507	(—) 20,268	86,764
2·12	3·27	5·79	36,173	33,477	47,395	(+) 11,731	2,37,283
2·69	1·91	1·07	2,23,856	2,29,194	2,44,300	(+) 7,174	8,16,236
..	3·94	17·66	17,359	12,788	19,349	(+) 67	1,08,578
0·75	2·28	2·03	28,263	18,438	24,862	(−) 8,401	35,693

APPENDIX C-

Table of electric supply costs and rec

Serial number and name of undertaking. *	Year of operation.	Year of accounts to which the figures refer.	Depreciation for the year. (17)	Depreciation fund at the end of the year. (18)	Other reserves special reserve at the end of the year. (19)	Population of area. (20)	Total capacity. (21)
			RS.	RS.	RS.		
1 Madras	37th ..	1944 ..	6,66,667	91,88,543	11,06,387	1,800,000	43,000 K.W.
2 Kanadukathan ..	21st ..	1944–45 ..	9,881	1,85,366	1,21,661	53,086	..
3 Devakottai ..	21st ..	1944–45 ..	7,225	82,572	16,155	28,000	265 K.V.A.
4 British Cochin ..	21st ..	1944–45 ..	5,158	36,187	..	26,200	105 K.W.
5 Trichinopoly-Srirangam.	17th ..	1944–45 ..	63,032	6,16,083	20,000	1,796,763	10,692 K.V.A.
6 Rajahmundry ..	17th ..	1944–45 ..	14,554	2,09,043	9,308	82,000	435 K.W.
7 Calicut	16th ..	1944–45 ..	23,000	2,52,140	30,862	120,000	820 K.W.
8 Karaikudi	15th ..	1944–45 ..	14,506	1,40,922	2,105	140,922	580 K.V.A.
9 Vellore	14th ..	1944–45 ..	20,473	1,77,107	..	126,889	..
10 Guntur ..	13th ..	1944–45 ..	11,600	1,35,000	14,874	150,000	630 K.V.A.
11 Kumbakonam ..	13th ..	1944–45 ..	29,698	2,04,413	41,143	100,000	1,753 ,,
12 Nattarasankottai ..	12th ..	1944–45 ..	6,023	41,113	9,694	20,000	..
13 Salem-Erode ..	13th ..	1944–45 ..	46,341	4,52,668	1,69,366	224,272	11,140 ,,
14 Mangalore	12th ..	1944–45 ..	37,800	3,79,508	..	99,060	750 K.W.
15 Palghat	12th ..	1944–45 ..	8,961	78,673	8,650	60,000	350 K.V.A.
16 Tinnevelly-Tuticorin	12th ..	1944–45 ..	48,839	*4,15,244*	..	*250,000*	2,000 ,,
17 East Tanjore ..	11th ..	1944–45 ..	*50,425*	*3,70,046*	..	*1,611,162*	4,705 ,,
18 Nellore	11th ..	1944–45 ..	7,000	40,500	778	57,970	376 K.W.
19 Tirupathi	13th ..	1944–45 ..	11,908	1,61,963	..	30,000	*5,945* K.V.A.
20 Chittoor	11th ..	1944–45 ..	4,874	37,246	..	30,000	200 K.V.A.
21 Negapatam ..	10th ..	1944–45 ..	11,010	78,577	..	55,000	..
22 Okkur	10th ..	1944–45 ..	10,479	29,912	1,599	15,000	..
23 Proddattur ..	10th ..	1944–45 ..	..	..	..	29,000	96 K.W.
24 South Arcot ..	10th ..	1944–45 ..	30,000	1,66,425	..	*160,000*	..
25 Vizagapatam : ..	11th ..	1944–45 ..	19,703	1,40,487	33,448	150,000	..
26 Adoni	7th ..	1944–45 ..	14,851	24,899	..	40,000	346 K.W.
27 Gudiyattam ..	8th ..	1944–45 ..	7,133	40,899	..	54,000	..
28 Gudivada ..	8th ..	1044–45 ..	6,339	17,383	..	30,000	76 K.V.A.
29 Ellore	8th ..	1944–45 ..	9,288	67,986	12,405	70,000	..
30 West Ramnad-Srivilliputtur.	7th ..	1944 ..	9,136	46,403	20,684	80,000	..
31 Narasaraopet ..	7th ..	1944–45 ..	..	9,000	1,000	18,000	160 K.W.
32 Ongole	7th ..	1944–45 ..	..	6,000	..	26,000	50 ,,
33 Cuddapah	8th ..	1944–45 ..	4,660	43,268	226	35,000	*230* ,,
34 Ambur-Vaniambady	8th ..	1944–45 ..	7,500	32,500	..	*61,500*	*425* K.V.A.
35 Chingleput ..	7th ..	1944–45 ..	4,907	18,395	..	60,000	175 K.V.A.
36 Cannanoore-Tellicherry.	7th ..	1944–45 ..	27,937	57,672	..	100,000	486 K.W.
37 Chicacole	7th ..	1944–45 ..	..	20,000	2,224	40,000	107 ,,
38 Bobbili	7th ..	1944–45 ..	1,722	11,531	770	14,469	200 K.V.A.
39 Anakapalle ..	7th ..	1944–45 ..	3,625	20,963	2,000	36,000	140 K.V.A.
40 Udipi	8th ..	1944–45 ..	2,000	10,000	..	At Karakal. 29,100 at Udipi.	15 K.W. 147 K.W.
41 East Ramnad ..	7th ..	1944–45 ..	46,721	1,17,595	..	1,207,243	2,250 K.V.A.
42 Salur-Parvatipur ..	6th ..	1944–45 ..	2,467	2,467	..	41,000 at Parvatipur.	60 K.W.
43 Naikuppai	6th ..	1944–45 ..	3,873	20,580	..	12,823	..
44 Ponnani		.. 1944–45 ..					
45 East Coast		.. 1944–45 ..					

NOTES.—(1) All the figures have been calculated on a uniform ba
(2) Total expenditure including interest, income-tax p
expenses and interest paid on Consumers securi
(3) Same as above.
(4) Excluding supervision charges for service connection
* For all the three South Madras undertakings as a whole.

C-1—*cont.*

records—Company licensees—cont.

Maximum load on the feeders.	Units generated.	Units purchased.	Load factor.	Total number of units sold.	Number of consumers at the end of the year.	Dividend on ordinary shares.
(22)	(23)	(24)	(25)	(26)	(27)	(28)
16,590 K.W.	71,058,600	..	42·26	61,574,708	16,087	6 per cent less tax.
370·8 K.V.A.	..	1,155,302	28·74	9,33,396	1,208	8 per cent tax free.
192 K.W.	..	593,854	27·10	4,55,708	840	6 per cent.
64 K.W.	121,587	48,560	25·02	1,40,345	309	Nil.
94 K.W.	..	22,974,104	59·82	21,556,847	9,373	6½ per cent tax free.*
300 ,,	907,195	..	28·76	755,666	1,129	6¼ per cent free of tax.
365 ,,	1,182,032	..	27·19	869,329	2,333	Nil.
250 ,,	..	711,190	25·90	567,114	"1,105	6¼ per cent tax free.
520 ,,	..	1,975,721	39·93	1,819,454	2,046	6½ per cent.
120 ,,	..	2,493,041	31·86	2,093,649	1,657	4 per cent tax free.
830 ,,	..	2,354,758	25·95	1,891,743	3,259	5 per cent free of tax.
130 K.V.A.	..	293,128	22·23	253,181	614	Nil.
1,437 K.W. (Salem). 330 K.W. (Erode). 511 K.W. (Village).	..	9,987,192	44·71	9,281,741	4,587	3½ per cent free of tax.
539 K.W.	1,575,020	..	26·69	1,239,910	"1,820	Nil.
194 ,,	..	516,886	26·09	443,407	1,161	6·75 per cent tax free.
835 ,,	..	3,321,597	37·71	2,758,821	4,323	Nil.
1,610 K.W. Tiruvam 67·5 Arantangi. 65 K.W. Vallam.	..	6,424,112	34·61	5,286,441	8,254	6¼ per cent free of tax. *
191 K.W.	529,949	..	25·03	418,768	892	4 per cent.
220 K.W.	..	708,251	30·82	594,100	878	..
127 K.W.	..	345,232	24·94	277,389	557	4 per cent tax free.
960 ,,	..	2,081,067	23·94	2,018,956	1,121	5 per cent free of tax.
119 ,,	..	401,829	29·29	303,300	481	Nil.
50 ,,	75,651	..	11·74	51,425	370	Nil.
1,470 ,, 167 ,,	..	5,643,491	32·56	4,680·529	3,007	5 per cent free of tax.
431 ,,	..	1,455,856	32·05	1,210,348	1,496	4 per cent tax free.
125 ,,	203,661	..	15·89	174,537	381	4 per cent free of Income-tax.
428 ,,	..	1,980,202	51·48	1,930,342	628	Nil.
65 K.V.A.	..	117,840	24·25	110,536	403	4 per cent free of tax.
86 K.W.	..	217,478	22·15	185,322	809	3¾ per cent.
687 K.W.	..	2,085,293	43·94	1,958,835	879	8 per cent tax free.
70 ,,	161,469	..	22·91	149,479	464	3 per cent free of tax.
50 ,,	60,190	..	..	45,757	252	Nil.
132 ,,	278,357	..	20·07	232,134	625	Nil.
170·00 ,,	..	557,660	32·95	490,736	894	2·5 per cent free of tax.
99 ,,	..	368,355	40·95	355,121	360	5 per cent free of tax.
195 ,,	506,649	..	26·18	447,248	1,236	Nil.
53 K.W. (Chicacole). 14 K.W. (Narasannapeta).	79,603	..	:12·10	71,017	481	Nil.
140 K.W.						
70 K.W.	..	265,592	:19·49	238,984	173	Nil.
16 K.W.	..	180,054	23·55	144,358	283	2 per cent tax free.
105 K.W.	156,482	..	..	130,130,	604	4 per cent tax free.
980 K.W. Sivaganga. 39·36 K.W. Singanpuneri. 20·34 K.W. Salur.	..	3,927,572	40·61	3,625,452	/2,080	6½ per cent free of tax.*
24·0 K.W.	17,060	27,896	10·34	40,066	307	Nil./
102 K.W.	..	222,472	21·88	195,506	209	..

According to standard practice.

Preference dividend, amounts written off towards preliminary deposits but less service connection charges.

APPENDI[cut off]

Table of electric supply costs and

Serial number and name of undertaking.	Year of operation.	Year of accounts to which the figures refer.	System and voltage of supply.	Total generation or purchase cost per unit.
(1)	(2)	(3)	(4)	(5)
				AS.
1 Bellary	18th	1944–45	D.C. 460/230 V. A.C. 400/230 M. 50 cycles	1·81
2 Bezwada	15th	Do.	A.C. 400/230 V. 50 cycles	0·77
3 Cocanada	16th	Do.	Do.	1·65
4 Hindupur	15th	Do.	D.C. 460/230 V.	2·42
5 Hospet	10th	Do.	A.C. 400/230 V. 50 cycles	12·47
6 Kurnool	15th	Do.	Do.	1·78
7 Masulipatam	12th	Do.	Do.	1·03
8 Trivellore *	8th	Do.	Do.	0·91
9 Ootacamund	22nd	Do.	Do.	0·56
10 Conjeeveram	14th	Do.	Do.	0·70
11 Coonoor	16th	Do.	Do.	0·74
12 Coimbatore	12th	Do.	Do.	0·52
13 Pollachi	12th	Do.	Do.	0·64
14 Dindigul	11th	Do.	Do.	0·62
15 Virdunagar	11th	Do.	Do.	0·61
16 Tiruppur	11th	Do.	Do.	0·67
17 Madura	18th	Do.	Do.	0·45
18 Tanjore	*17th*	*Do.*	*Do.*	0·59
19 Udamalpet	*10th*	*Do.*	*Do.*	0·75
20 Palni	*10th*	*Do.*	Do.	0·74
21 Karur	9th	Do.	Do.	0·74
22 Bdinayakkanur	10th	Do.	Do.	0·75
23 Periyakulam	10th	Do.	Do.	0·76
24 Sembiam*	..	..	..	..
25 Tiruvottiyur	12th	1944–45	A.C. 400/230 V. 50 cycles	0·65
26 Alandur *	..	..	..	..
27 Tirupattur*	..	..	..	..
28 Tiruvannamalai	7th	1944–45	A.C. 400/230 V. 50 cycles	0·68
29 Sivakasi	9th	Do.	Do.	0·74
30 Villivakkam	9th	Do.	Do.	1·61
31 Dharapuram	6th	Do.	Do.	0·73
32 Anantapur	7th	Do.	Do.	1·97
33 Kodaikanal	7th	Do.	Do.	0·93
34 Wellington—Cantonment	Figures not available as this licensee has been exempte[cut off]			
35 Kollegal	5th	1944–45	A.C. 400/230 V.	3·97
36 Rameswaram Panchayat Board	6th	Do.	A.C. 3 ph. 400/230 .	3·73

NOTES.—(1) All figures are calculated on a uniform[cut off]
(2) Total expenditure including loan[cut off]
(3) Excluding *supervision* charges fo[cut off]
* Accounts not[cut off]

C-2.

records—Local Authority undertakings.

Working cost per unit sold.	Revenue per unit sold. Lights and fans.	Power.	Special contract.	Street lighting.	Total—*see* Note (3).	Total [illegible]enditure against revenue—*see* note (2).	Revenue from electric supply.
(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
AS.	AS.	AS.	AS.	AS.	AS.	RS.	RS.
5·38	5·37	1·92	..	2·05	4·871	1,10,773	78,889
1·66	4·55	1·24	0·74	2·00	1·69	2,10,545	2,16,178
3·48	3·86	1·35	..	5·58	3·27	1,38,164	1,09,323
6·79	7·92	1·40	..	4·98	6·16	28,242	17,299
23·21	6·69	2·62	..	3·99	8·10	16,442	3,826
6·45	5·30	1·59	..	2·46	4·55	91,088	40,243
3·47	6·20	1·27	0·98	3·00	3·37	86,123	61,747
3·87	5·63	1·45	..	3·22	3·39	28,988	22,924
1·53	3·28	1·21	0·79	2·00	1·66	2,08,445	2,25,632
2·569	3·72	1·29	..	2·00	2·65	93,968	88,967
2·69	3·65	1·30	..	2·00	2·69	72,969	69,273
1·46	2·97	0·94	0·71	1·98	2·11	2,78,440	3,83,078
1·60	3·80	1·00	..	2·00	1·64	73.252	71,638
1·39	3·46	0·87	1·15	2·00	1·63	94,430	1,07,971
1·40	3·75	0·89	..	2·00	1·64	76,907	86,478
1·62	3·78	1·16	..	2·00	1·88	82,451	90,816
1·12	3·05	0·89	0·64	1·25	1·58	4,02,216	5,60,462
1·44	3·01	0·98	0·65	1·997	1·686	1,33,017	1,48,239
2·15	4·06	0·99	..	1·75	1·98	34,055	27,874
1·99	3·52	1·01	..	2·00	2·41	32,364	33,310
2·04	3·94	0·96	..	2·00	2·23	53,821	54,763
2·04	3·99	1·02	..	1·64	2·24	21,878	21,723
2·51	3·98	1·02	..	2·00	2·29	24,876	21,353
..	..	..	..	..	..	..	..
2·38	4·21	1·20	3·20	6.46	2·47	28,771	24,568
1·85	3·59	0·92	1·26	2·00	1·89	40,741	38,759
2·08	4·22	1·00	1·82	2·00	2·05	30,388	26,046
3·76	4·44	1·39	..	3·00	3·01	9,924	5,878
2·32	4·12	0·98	..	2·00	2·28	32,399	28,227
5·78	6·24	1·68	..	4·89	5·25	35,360	22,682
5·33	6·68	1·78	..	2·00	5·77	44,451	44,108
from rendering accounts in the presented forms.)							
8·41	5·02	1·88		4·33	4·67	23,882	10,221
11·50	6·69	..	..	5·50	6·70	8,492	4,739

basis according to standard practice.
charges but less service connexion.
services connexion.
received yet.

APPENDIX C

Table of electric supply costs and re

Serial number and name of undertaking.	Total Revenue from working. (14)	Net profit (+) or (−) up to the end of the year. (15)	Loans repaid during the year. (16)	Total capital expenditure up to the end of the year. (17)
	RS.	RS.	RS.	RS.
1 Bellary ..	1,00,202	(−) 36,281	20,052	3,76,600
2 Bezwada	2,15,364	(+) *13,014*	*23,260*	4,42,193
3 Cocanada	7,32,169	(−) 27,593	*17,025*	3,65,801
4 Hindupur	26,843	(−) 1,399	5,751	1,38,857
5 Hospet ..	5,925	(+) 10,902	..	1,67,166
6 Kurnool	84,347	..	36,305	3,46,673
7 Masulipatam	84,129	..	24,147	2,18,544
8 Trivellore *	25,000	(−) 2,095	8,542	1,09,649
9 Ootacamund	2,31,323	..	24,445	8,25,973
10 Conjeeveram	97,608	(+) 73,597	20,650	4,38,857
11 Coonoor ..	74,581	(+) 6,036	8,147	2,07,860
12 Coimbatore	4,12,440	22,318	31,171	8,49,485
13 Pollachi ..	75,400	(+) 6,339	8,552	2,23,798
14 Dindigul	1,11,416	47,025	10,894	2,60,698
15 Virudunagar	90,998	(+) 10,726	9,207	2,36,843
16 Tiruppur	97,372	(+) 50,688	8,987	2,62,448
17 Madura ..	5,73,410	4,22,143	54,683	10,83,929
18 Tanjore ..	*1,56,675*	*28,131*	*16,718*	4,93,072
19 Udamalpet	*31,399*	..	*4,818*	*1,14,420*
20 Palni ..	*39,112*	(+) *13,160*	3,535	82,970
21 Karur ..	58,868	..	6,467	1,36,518
22 Bodinayakkanur	24,447	(−) 13,583	3,410	70,521
23 Periyakulam	22,931	(−) 17,961	4,160	88,532
24 Sembiem *	..	..	..	..
25 Tiruvottiyur	29,993	(+) 4,927	1,502	*76,077*
26 Alandur* ..	..	..	..	..
27 Tirupattur	..	..	..	..
28 Tiruvannamalai	41,594	(+) 854	6,494	*1,46,007*
29 Sivakasi ..	29,943	(−) 415	*5,088*	*1,05,886*
30 Villivakkam	8,009	(+) 3,530	*1,519*	*35,711*
31 Dharapuram	31,968	..	4,962	1,11,779
32 Anantapur	31,774	(−) 4,724	7,247	1,73,997
33 Kodaikanal	48,421	(+) 5,357	9,691	1,16,128
34 Wellington-Cantonment	(Figures not available as this licensees has been			
35 Kollegal ..	13,268	..	3,897	97,502
36 Rameswaram Panchayat Board	5,002	(−) 2,069	1,361	37,924

* Accounts *not*

C-2—*cont.*

records—*Local Authority undertakings.*—cont.

Population of area.	Total capacity.	Maximum load on the feeders.	Units generated.	Units purchased.	Load factor per cent.	Total Number of units sold.	Number of consumers at the end of the year.
(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
56,056	542 K.W	245	451,558	..	15·35	329,394	938
87,656	800 KVA	564 KWK	..	2,308,576	41·12	2,031,395·5	1,623
75,146	450 KVA	250 KW	..	736,515	29·05	636,187	972
18,978 (as per census of 1941).	60 KW	36·48 KW	71,686	..	..	66,547	261
26,013	98·5 KW	50 KW	14,118	..	7·00	11,331	343
45,174	451 KW	145 KW	267,320	..	17·79	2,26,014	580
59,146	250 KVA	125 KW	..	460,061	36·24	369,859·4	722
13,300	153 KVA	49 KW	..	148,302	27·91	119,788	203
29,899	1,200 KW	935 KW	..	2,511,405	27·17	2,225,040	1,508
84,000	430 KVA	264 KW	..	654,151	25·40	587,606	1,133
18,781	400	204	..	502,616	24·33	434,670	776
130,354 (as per census of 1941).	1,575	1,165	..	3,517,012	30·05	3,041,080	4,413
26,198	600 KVA	240 KW	..	858,470	34·81	731,913	724
75,000	675 KVA	380 KW	..	1,237,951	32·62	1,086,477	1,093
34,560	375 KVA	240 KW	..	983,016	41·97	881,969	1,038
33,090	1,125	375	..	959,883	24·86	816,754	916
239,167	2,800 KVA	1,736 KW	..	6,740,987	37·62	5,720,592	4,885
68,722	950 KVA	425 KW	..	1,607,350	39·69	1,478,046	1,489
17,596	275	114	..	280,095	25·39	253,580	423
24,706	225 KVA	122 KW	..	285,848	24·32	259,910	434
27,575	300 KVA	165 KW	..	443,551	29·21	422,137	762
32,000	150 KVA	142	..	182,465	13·79	171,554	334
25,882	150 KVA	74 KVA	..	174,396	24·49	158,761	357
..	..	..	..	..	..	..	..
17,000	250 KVA	172 KVA	..	221,170	12·84	193,546	112
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
33,575	150 KVA	114 KW	..	388,042	35·26	352,059	405
16,627	150 KVA	77 KVA	..	249,740	34·69	233,984·5	319
8,881	50 KVA	44 KVA	..	48,839	13·71	42,275	87
20,660	150 KVA	90 KVA	..	242,058	35·42	223,423	403
22,000	125 KW	62 KW	113,437	..	18·01	97,844	338
9,124	175 KVA	94 KW	..	145,978	16·21	133,464	333
8,255	50 KVA	40 KW	..	76,251	19·87	69,620	109
exempted from rendering accounts in the prescribed forms.)							
15,089	80	42	54,411	..	12·35	45,430	152
5,778	..	18 KW	..	11,901	7·49	11,812	103

received yet.

APPENDI

Statistical data regarding number of units generated or purchased, sold, connecte

Serial number and name of licensee. (1)	Number of units generated. (2)	Number of units purchased. (3)	Number of units sold. (4)	Maximum demand in K.W. (5)
1 Madras	80,954,380	..	69,139,933	18,000
2 Kanadukathan	..	1,172,472·2	951,646·5	364·62
3 Devakottai	..	600,812·39	452,355·40	232·50
4 British Cochin	34,942	95,990	117,722	65
5 Trichinopoly-Srirangam	..	24,667,708	22,678,073	4,640 K.V.A. Trich nopoly. 120 K.V.A.* Mayanur.
6 Rajahmundry	1,047,098	..	879,242	
7 Calicut	1,206,938	..	942,508	335
8 Karaikudi	..	741,180	593,380	405
9 Vellore	..	2,201,338	2,007,055·9	276 K.V.A.
10 Guntur	..	2,451,239	2,075,258	645 650 K.V.A. a Tenali. 100 K.W. at Sita nagaram.
11 Kumbakonam	..	2,955,087	2,362,209	1,060 K.V.A.
12 Nattarasankottai	..	316,639	256,933	107
13 Salem-Erode	..	10,619,140	9,863,077	1,612·5 at Salem. 410 at Erode. 536 at Sankaridru 7 at Pallipalaya
14 Mangalore	..	1,750,310	1,438,476	685 K.V.A.
15 Palghat	..	622,578	528,938	220 K.W.
16 Tinnevelly-Tuticorin	..	4,617,160	4,050,165	960
17 East Tanjore	..	6,674,954	5,595,705	1,875 K.V.A. a Tiruvarur. 99 K.V.A. a Vallam. 104 K.W. at *Arantangi.*
18 Nellore	630,058	..	501,066	255
19 Tirumalai-Tirupathi	..	853,167	853,604	210
20 Chittoor	..	428,050	362,422	145
21 Negapatam	..	2,233,584	1,837,408·6	980
22 Okkur	..	429,865	325,300	129
23 Proddatur	80,748	..	59,008	52
24 South Arcot	..	8,118,366	6,789,056·749	1,640 at Villupuram 19·75 at Chidam baram.
25 Vizagapatam	..	2,252,579	1,922,592	684·72 K.V.A.
26 Adoni	174,707	..	145,649	120
27 Gudiyattam	..	1,692,567	1,610,120	390
Pernambut	..	209,968	195,441	66·5 K.W.
28 Gudivada	..	131,230	125,844	73 K.V.A.
29 Ellore	..	251,901	222,057	126 K.V.A.
30 West Ramnad	..	2,851,565	2,463,581·25	582·5
31 Narasaraopet	145,105	..	126,029	70
32 Ongole	84,625	..	75,888	52
33 Cuddapah	321,211	..	274,236·21	185
34 Ambur-Vaniyambadi	..	677,423	605,026	205
35 Chingleput	..	466,254	441,413	143
36 Tellicherry-Cannanore	400,560	..	342,555	190 K.W.
37 Chicacole	90,343	..	84,716	70
38 Bobbili	..	299,702	263,365·54	119·5
39 Anakapalli	..	202,116	167,624·2	90
40 Udipi—(Udipi)	175,869	..	144,149	105
(Karkala)	17,035	..	15,229	14
41 East-Ramnad	..	4,119,165	3,758,907	1,120 Sivaganga. 42·5 Singampuna
42 Salur-Parvathipur	18,484 at Parvathipuram.	35,339·5 at Salur.	49,784·5	18 at Parvathipu 17 at Salur.
43 Neikuppai	..	179,138·515	167,845·895	100 K.V.A.
44 Tiruchendur	..	..	..	..
45 Valparai	..	23,248	22,597	..
	85,882,103			

C-3.

load, etc., for the year ending **31st *March* 1946—(*company licensees*).**

Total connected load at the end of 1945–46 in K.W.

	Industrial.					
Municipal.	Textiles.	Cement.	Chemicals.	Steel rolling mills.	Small industries.	Railways.
(6)	(7)	(8)	(9)	(10)	(11)	(12)
703	..	..	..	..	15,965	2,410
..	..	..	..	..	176·62	..
54·03	..	..	..	..	135·05	..
10	..	..	..	..	..	..
141·86	1,095	2,270	..	..	3,192	199
120	8	..	..	..	93	31
20	..	..	..	..	402	12
56·83	1·60	..	..	..	96·18	7
60	..	..	..	..	1,227	18
11	..	80	..	..	654·75	20
47·2	..	..	..	..	1,774·25	5·75
..	..	..	..	..	120	..
95·36	1,731·795	..	..	..	3,465·81	30·12
59·895	..	..	..	..	654·383	6·75
23 KW	..	..	..	..	312 KW	..
88	669	..	..	..	1,965	21
31·95	..	..	..	..	3,047·67	50·380
100·35	..					
8·3	6·75	..	..	..	74·63	82·2
15·49	..	..	..	..	321·96	6·363
25·0	..	..	..	..	327·3	..
..	..	..	..	2,407·5	433·75	15·5
14	..	..	..	..	..	..
57·89	..	..	..	..	20·5	..
		..	..	..	1,058·559	123·945
					280·475	
45	..				190·000	
17·5	..	..	..	..	284	..
12·42	455	..	..	..	78·5	..
..	..	..	..	..	188·75	..
17·2	..	..	..	..	70·93 KW	..
24·38	..	..	..	..	55·0	..
44·94	526·88	..	..	..	109·31	..
15·360	..	..	..	..	326·37	..
12	..	..	..	..	93·824	1·750
82	..	..	..	..	11	..
14	..	..	..	..	96	..
28	..	..	..	..	280	..
29·4	345·8	..	..	..	169·75	81·25
12	..	..	..	..	18	1·2
..	..	..	..	..	56	..
11·42	..	..	..	..	230·0045	..
10·72	..	..	..	..	78·65	..
		..	..	..	87·3	..
..	..	..	..	..	687·7	18·75
..	..	..	..	..	19	..
..	..	..	..	..	54·75	..
..	..	..	..	..	..	..
..	..	..	..	..	..	..

APPENDIX

Statistical data regarding number of units generated or purchased, sold, connected

Serial number and name of licensee.	Total connected load at the end of 1945–46			
	Government departments.	Panchayat boards.	Agricultural.	Domestic lighting and power.
	(13)	(14)	(15)	(16)
1 Madras	..	400	..	20,167
2 Kanadukathan	11·15	20·09	11·62	1,337
3 Devakottai	1·61	..	14·05	898·04
4 British Cochin	..	..	..	165
5 Trichinopoly-Srirangam	202	56·215	349	2,889
6 Rajahmundry	101	2	1	381
7 Calicut	15	..	..	815
8 Karaikudi	3	..	6·74	1,021·11
9 Vellore	60	35	30	825
10 Guntur	26	·275	220·5	479·753
11 Kumbakonam	6·74	33·04	7·5	1,092·79
12 Nattarasankottai	6	12	..	266
13 Salem-Erode	..	..	..	..
14 Mangalore	49·325	14·155	277·253	1,812·575
15 Palghat	65·580	..	..	805·166
16 Tinnevelly-Tuticorin	37	..	..	340
17 East Tanjore	..	2	25	1,740
18 Nellore	19·02	56·375	118·256	1,232·190
19 Tirumalai-Tirupathi	29·1	..	3·78	120·7
20 Chittoor	1·09	·725	112·31	524·266
21 Negapatam	..	..	12·00	556·00
22 Okkur	49·0	1·0	..	406·0
23 Proddatur	·52	6·0	17·3	853·4
24 South Arcot	..	..	35	61
25 Vizagapatam	65·731	..	..	1,068
26 Adoni	4·0	..	..	88
27 Gudiyattam	5·625	..	168·375	106·72
Pernambut	..	4·22	60·8	107·875
28 Gudivada	0·52	..	..	106·08
29 Ellore	3·3	..	4·5	317·57
30 West Ramnad	1·88	..	7·46	171·16
31 Narasaraopet	2·54	..	..	45·745
32 Ongole	..	..	..	95
33 Cuddapah	..	..	52	170
34 Ambur-Vaniyambadi	2	13	179	378
35 Chingleput	7	..	40·5	57·5
36 Tellicherry-Cannanore	17·8	..	..	250·4
37 Chicacole	..	..	4	56
38 Bobbili	..	3·58	..	82·139
39 Anakapalli	..	..	..	117·4
40 Udipi—(Udipi) (Karkala)	..	2	..	129·375
41 East Ramnad	1·9	34·44	24·37	645·55
42 Salur-Parvathipur	..	6·52	..	80·15
43 Nelkuppai	..	1·7	6·75	173·194
44 Tiruchendur	..	..	..	...
45 Valparai	·658	3·986	..	11·906

C-3—*cont.*

load, etc., for the year ending 31*st March* 1946—(*Company licensees*)—cont.

in KW.—*cont.*		Number of high-tension and low-tension consumers on 31st March 1946.		Number of agricultural pump sets and total horse-power.			
				As on 31st March 1946.		Connected during the year.	
Miscellaneous. (17)	Total. (18)	High-tension. (19)	Law-tension. (20)	Number. (21)	Horse-power. (22)	Number. (23)	Horse-power. (24)
1,000	40,645	30	19,200	..	..	..	..
220·25	1,781·73	3	1,215	7	15·5	3	8
4·35	1,107·13	..	843	5	18·75	2	7
5	250	..	305	..	..	..	..
1,757	12,151·075	6	9,509	147	466·25	23	80·25
50	787	1	1,145	1	1	..	..
42	1,306	..	2,317	..	..	..	..
..	1,192·46	..	1,079	5	9	5	9
..	2,255	..	2,119	9	32	2	10
132·9	1,625·178	1	1,693	69	294	..	..
..	2,967·27	..	3,324	2	6·75	..	..
12	416	..	641	..	..	..	..
0·28	7,476·705	5	4,657	53	277·285 K.W.	7	45·9 K.W.
1,041·936	2,633·71 K.W.	..	1,837	..	..	..	..
17	729	..	1,181	..	..	..	..
..	4,508	3	4,427	5	28·25	..	..
1,142·643	5,798·484	4	8,331	57	159	7	21
98·51	509·22	..	897	1	5	..	..
..	981·764	..	744	34	149·75	7	28
..	910·79	..	571	2	18·80	..	..
..	3,337·75	1	1,159	..	..	..	..
43·33	*921·19*	..	*483*	5	23	2	10
3	*141·5*	*5*	*366*	6	47·5	1	7·5
..	4,691·863	2	*3,168*	471	2,320	107	525
48	1,900	2	*1,441*	..	..	..	..
63	251	..	386	..	..	..	..
..	936·890	1	396	39	239	18	72·5
7·5	251·325	..	252	11	70·5	2	10
10	188·8	..	*416*	..	..	..	..
..	459·06	..	810	*1*	5	..	..
..	1,078·69	4	895	3	10	1	5
18·650	177·869	..	464	..	..	..	..
8	*126*	..	..	..	..	..	..
..	*400*	..	625	9	69·5	..	..
13	879	..	918	40	239·5	10	50·5
..	329	..	373	10	54	6	42
14·4	677	1	1,240	..	..	..	..
8	136	..	397	1	5	..	..
4·1	319·8235	..	173	..	..	..	..
..	207·47	..	263	..	..	..	..
8·1	237·495	*1*	605	..	..	..	..
4,069·45	5,432·16	4	2,124	4	30	1	5
5	110·67	..	310	..	..	..	..
37·288	273·682	1	353	2	9	..	..
..	..	..	..	..	..	..	..
..	*16·550*	..	16	..	..	..	..
	113,512·3035	75	83,677				

APPENDIX C-4.

Statistical data regarding number of units generated or purchased, sold, connected load, etc., for the year ending 31st March 1946—Local authority licensees.

Serial number and name of licensee.	Number of units generated.	Number of units purchased.	Number of units sold.	Maximum demand in K.W.	Total connected load at end of 1945–46 in K.W. Municipal.	Textiles.	Cement.	Chemicals.	Steel rolling mills.	Small industries.	Railways.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1 Bellary	5,80,944	..	476,020	272	5·18	..	..	..	..	196	8·5
2 Bezwada	..	2,415,710	2,152,863	639	40·12	..	..	..	31·07	489·62	215·5
3 Cocanada	..	906,817	801,961	275	107·033	9·325	..	..	..	176·864	11·2
4 Hindupur	82,649	..	76,120	39·6	15·09	..	..	..	..	24·5	..
5 Hospet	No supply of energy due to break down of engines.										
6 Kurnool	260,526	..	230,306	135	46·37	9·325	..	..	..	156	5
7 Masulipatam	..	505,644	440,679	185	65·27	..	..	..	..	209·15	..
8 Tiruvellore	..	238,980	196,578	70·4	..	..	..	..	..	49·225	..
9 Ootacamund	..	25,58,110	2,344,679	965 K.V.A.	96·7	..	..	..	..	341·25	6·2
10 Conjeeveram	..	7,22,281	641,024	284 K.V.A.	5·64	..	..	..	..	237·967	4·5
11 Coonoor	..	534,360	454,331	222	47·82	..	..	..	..	80·568	12·68
12 Coimbatore	..	43,49,541	3,802,285	1,387·5	207	12	..	..	..	974	60
13 Pollachi	..	10,06,575	880,557	270	66·642	..	..	..	..	799·608	11·19
14 Dindigul	..	13,71,221	1,215,862	462 K.V.A.	84	129	..	..	..	404	15
15 Virudunagar	..	10,73,427	969,529	337 K.V.A.	17·731	plus 33.	..	..	..	385·742	..
16 Tiruppur	..	10,85,933	937,700	470	32·925	..	..	..	..	1,098·797	..
17 Madura	..	7,642,351	6,401,388½	1,990	253·54	739·65	..	..	..	1,023·931	201
18 Tanjore	..	1,778,791	1,629,884	595 K.V.A.	179·41	..	..	..	..	798·61	30
19 Udamalpet	..	389,079	376·017·3	138	6·948	..	..	..	..	272·944	5·735
20 Palni	..	362,214	336,837	133	10	..	..	..	..	163	5
21 Karur	..	511,077	478,006	175	23·71	..	..	..	..	238·122	5·588
22 Bodinayakkanur	..	198,398	182,848	111·6 K.V.A.	24·211	..	..	..	..	84·671	..
23 Periyakulam	..	228,862	206,075	99 K.V.A.	22·14	..	..	..	..	150·65	..
24 Sembiam	..	289,908	220,687	112	..	..	..	..	..	119·733	..
25 Tiruvottiyur	..	336,735	287,785	146 K.V.A.	..	..	..	..	..	285·91	..
26 Alandur	..	146,896	126,238	86 K.V.A.	..	..	..	..	..	96·2	..
27 Tiruppattur	..	248,288	240,298	92	15·88	..	..	..	..	103·125	..
28 Tiruvannamalai	..	456,195	414,859	132 K.V.A.	46·88	..	..	..	..	..	4·46
29 Sivakasi	..	282,681	261,225	89	2	..	..	..	..	153	..
30 Villivakkam	..	57,912	51,000	44 K.V.A.	..	..	..	..	..	29·9	..
31 Dharapuram	..	281,840·8	265,552	100 KVA.	6·802	..	..	..	..	109·289	..
32 Anantapur	168,541	..	146,171	74	15·98	..	..	..	..	57·945	..
33 Kodaikanal	..	175,159	157,611	118	..	..	..	..	..	43	..
34 Wellington Cantonment ..	..	90,053	85,641	51 K.W.	..	..	..	..	..	14·174	..
35 Kollegal	54,787	..	45,657	43	..	..	..	..	..	52·0	..
36 Rameswaram Panchayat Board.	..	14,037	13,965·11	25 K.V.A.	..	..	..	..	..	..	..
	1,147,447										

APPENDIX C-4—*cont.*

Statistical data regarding number of units generated or purchased, sold, connected load, etc., for the year ending 31st March 1946—Local authority licensees—cont.

	Total connected load at end of 1945-46 in K.W.—cont.						Number of H.T. and L.T. consumers on 31st March 1946.		Number of agricultural pump sets and total h.p.			
	Government departments. (13)	Panchayat boards. (14)	Agricultural. (15)	Domestic lighting and power. (16)	Miscellaneous. (17)	Total. (18)	H.T. (19)	L.T. (20)	As on 31st March 1946. NO. (21)	As on 31st March 1946. H.P. (22)	Connected during the year. NO. (23)	Connected during the year. H.P. (24)
1 Bellary	63·2	1·75	..	320·2	4·15	598·98	..	952	..	..	..	..
2 Bezwada	22·5	..	41·22	588·907	49·32	1,478·857	1	1,623	10	41·22	1	10
3 Cocanada	14·174	..	4·476	460·302	51·708	835·082	..	996	4	6	..	..
4 Hindupur	14·34	..	..	93·86	..	147·79	..	260	..	..	..	..
5 Hospet	..	..	..	..	..	..	..	343	..	..	..	..
6 Kurnool	8·26	..	..	427·37	..	643	..	578	..	..	..	..
7 Masulipatam	19·36	..	..	385·82	16·42	696·02	..	724	..	..	..	..
8 Tiruvellore	..	9·850	66·410	123·11	..	248·595	..	209	13	88·1	4	30
9 Ootacamund	135·00	..	..	1,490·41	..	2,069·56	4	1,294	..	..	..	..
10 Conjeeveram	4·825	..	71·144	428·576	78·620	831·272	..	1,142	16	93	4	..
11 Coonoor	230·210	..	..	381·89	1·12	554·29	..	807	..	..	..	..
12 Coimbatore	292	..	375	2.483	190	4·583	1	4,660	75	500	9	37
13 Pollachi	9·255	..	60·095	245·673	2·18	1,194·643	..	730	12	82·5	1	10
14 Dindigul	12	..	12	582	..	1·238	..	1,114	4	15·5	2	6
15 Virudunagar	6·749	..	16·026	559·513	..	1,018·761	..	1,043	5	21	2	8
16 Tiruppur	..	..	54·457	443·537	..	1,629·716	..	939	17	73	..	..
17 Madura	.. *	..	8·206	2,835·564	254·008	5,315·799	11	4,911	3	11	..	..
18 Tanjore	94·668	..	43·875	205·936	127·265	1,479·764	2	1,476	15	58·5	3	8
19 Udamalpet	7·928	..	104·718	168·239	15·480	582·012	..	436	20	139·25	1	5
20 Palni	3	..	14	266	..	461	..	439	4	18·75	..	..
21 Karur	12·705	..	3·75	406·462	29·25	719·587	..	776	1	3·75	..	..
22 Bodinayakkanur	..	..	23·985	95·470	12·445	240·782	..	340	6	32	1	5
23 Periyakulam	5·335	..	11·81	170·822	3·34	364·097	..	363	3	15·8	1	5
24 Sembiam	1·385	16·11	5·968	103·037	15	261·233	..	228	3	8	1	3
25 Tiruvottiyur	..	6·6	40·25	68·00	1·8	402·56	..	117	14	47·5	..	..
26 Alandur	..	..	..	2·1	79·73	178·03	..	172	..	..	..	..
27 Tiruppattur	..	..	7·5	154·027	11·25	291·782	..	460	3	11	..	..
28 Tiruvannamalai	1·75	..	46·225	155·01	5·956 plus 111·845	372·133	..	424	14	61	..	..
29 Sivakasi	0·42	..	24·6	198	19	397·02	..	323	6	32·3	2	10
30 Villivakkam	1·20	6·96	..	46·22	0·04	84·32	..	87	..	..	..	..
31 Dharapuram	0·64	..	16·785	176·724	..	310·240	..	428	5	22·5	2	9
32 Anantapur	..	..	7·492	103·430	16·489	201·336	..	345	4	10	..	..
33 Kodaikanal	..	..	..	418	10	471	..	348	..	..	..	..
34 Wellington Cantonment ..	..	..	..	45·355	26·112	85·641	..	110	..	..	..	..
35 Kollegal	3·16	5·765	..	77·115	7·45	145·490	..	150	..	..	..	..
36 Rameswaram Panchayat Board.	..	4	..	14	..	18	..	102	..	..	..	..
						30,149·342	19	29,449				

* Separate figures no tavailable.

Appendix D-1.

List of H.T. Consumers supplied directly by the Electricity department—Pykara System.

INDUSTRIES.

(a) Cement.

1 The Associated Cement Co., Madukkarai.

(b) Textiles.

2 The Coimbatore Spinning and Weaving Mills, Limited.
3 The Vasantha Mills, Ltd.
4 The Cambodia Mills, Ltd.
5 The Rajalakshmi Mills, Ltd.
6 The Somasundaram Mills, Ltd.
7 The Dhanalakshmi Mills, Ltd.
8 The Kaleswarar Mills, Limited.
9 Sri Ranga Vilas Ginning Spinning.
10 The Pankaja Mills, Ltd.
11 The Lakshmi Mills Co., Ltd.,
12 Sri Ramalinga Choodambika Mills.
13 The Coimbatore Cotton Mills, Ltd.
14 Sri Sarada Mills, Ltd.
15 The Lotus Mills, Ltd.
16 The Palni Andavar Mills, Ltd.
17 The Janardhana Mills, Ltd.
18 Sri Palamalai Ranganathar Mills.
19 The Venkatesa Mills, Ltd.
20 The Coimbatore Murugan Mills, Ltd.
21 The Saroja Mills, Ltd.
22 The Coimbatore Pioneers Mills, Ltd.
23 The Radhakrishna Mills, Ltd.
24 The Gnanambika Mills, Ltd.
25 The Coimbatore Kamala Mills, Ltd.
26 The Vijayalakshmi Mills, Ltd.
27 The Thirumurthi Mills, Ltd.
28 The Buckingham and Carnatic Co., Ltd.
29 Sri Balasubramania Mills, Ltd.
30 The Soundararaja Mills, Ltd.
31 The Kothari Textiles, Ltd.
32 The Asher Textiles, Ltd.
33 The Kasthuri Mills, Ltd.
34 The Kumaran Mills, Ltd.
35 The Jayalakshmi Mills, Ltd.
36 The Vinodha Ginning Factory, Dindigul.

(c) Chemicals.

37 The Industrial Chemicals Ltd., Coimbatore.

(d) Mining.

38 The Nilambur Mines, Nilambur.

(e) Others.

39 The General Manufacturing Corporation, Coimbatore.
40 The Cordite Factory, Aravankadu.

TEA ESTATES.

Nilgiris.

41 Bengorm Estate.
42 The Devarshola Estate.
43 The Glendale Factory.
44 The Bhavani Factory.
45 The Parkside Estate.
46 The Nonsuch Estate.
47 The Prospect Estate.
48 The Terrace Factory.

TEA ESTATES—*cont.*

Nilgiris—cont.

49 The Kilkotagiri Estate.
50 The Thattapallam Estate.
51 The Rousdonmalai Factory.
52 The Kilmul Fort Factory.
53 The Dunsandle Estate.
54 The Terramia Estate.
55 The Thiashola Factory.
56 The Sussex Group Tea Estates.

Anamalais.

57 The Vellamalai Estate.
58 The Pachamalai Estate.
59 The Akkamalai Estate.
60 The Manicka Factory.
61 The Iyerpadi Estate.
62 The Uralikkal Estate.
63 The Sheikalmudi Group.
64 The Thonimudi Estate.
65 The Anamalai Ropeway Company.
66 The Injiparai Estate.
67 The Stanmore Estate.
68 The Nallacathu Estate.
69 The Sri Kundra Estate.
70 The High Forest Estate.
71 The Valparai Township Committee.
72 The Karamalai Estate.
73 The Kadalaiparai Estate.
74 The Mukotumudis Estate.
75 The Sellaliparai Estate.
76 The Mount Stuart Estate.
77 The Malikkiparai Estate.
78 The Kallayar Estate.

Licensees.

79 Coimbatore Municipality.
80 Pollachi Municipality.
81 Tiruppur Municipality.
82 Udamalpet Municipality.
83 Ootacamund Municipality.
84 Palni Municipality.
85 Dindigul Municipality.
86 Dharapuram Municipality.
87 Periyakulam Municipality.
88 Bodinaickanur Municipality.
89 Kodaikanal.
90 Palghat Electric Supply Corporation.

OTHERS.

91 Cochin Government—Supply near Chittoor within the Madras boundary.
92 Central Jail, Coimbatore.
93 Forest College, Coimbatore.
94 Agricultural College, Coimbatore.
95 Sugarcane Station, Coimbatore.
96 Royal Naval Air Station, Coimbatore.
97 Sulur Aerodrome.
98 Government Malt Factory, Coimbatore.
99 The Military Buildings, Workshops—G.E. Coimbato (I Point of Supply).
100 Ice Plant and cold Storage—G.E. Coimba (II Point of Supply).
101 Divisional Camp, Palni—G.E. Dharapuram.

Appendix D-2.

List of H.T. consumers supplied directly by the Electricity department—Mettur System.

INDUSTRIES.

(a) Textiles.

1 Mettur Industries, Ltd.

(b) Chemicals.

2 Mettur Chemical and Industrial Corporation.

(c) Others.

3 Indian Metal and Metallurgical Corporation, Mettur Dam.
4 The Deccan Sugar and Abkari Co., Ltd., Pugalur.

LICENSEES.

5 Vellore Electric Corporation, Ltd., at Ranipet.
6 Vellore Electric Corporation, Ltd., at Vellore.
7 North Arcot District Electric Supply Corporation, Ltd., at Gudiyatham.
8 North Arcot District Electric Supply Corporation, Ltd., at Pernambut.
9 Chittoor Electric Supply Corporation, Ltd.
10 Carnatic Electric Supply Corporation, Ltd.
11 Salem-Erode Electricity Distribution Co., Ltd., Salem.
12 Salem-Erode Electricity Distribution Co., Ltd., Erode.
13 Salem-Erode Electricity Distribution, Co., Ltd., Sankarai.
14 Salem-Erode Electricity Distribution Co., Ltd., Palliapalayam.
15 South Madras Electric Supply Corporation, Ltd., Trichinopoly.

LICENSEES—*cont.*

16 South Madras Electric Supply Corporation, Ltd., Mayanoor.
17 South Madras Electric Supply Corporation, Ltd., Tiruvarur.
18 South Madras Electric Supply Corporation, Ltd., Vallam.
19 Negapatam Electric Supply Co., Ltd.
20 Kumbakonam Electric Supply Co., Ltd.
21 South Arcot Electricity Distribution, Co., Ltd.
22 Chingleput Electric Supply Corporation, Ltd., Chingleput.
23 Chingleput Electric Supply Corporation, Ltd., Reddipalayam.
24 Tirumalai-Tirupathi Devasthanams.
25 Tanjore Municipality.
26 Karur Municipality.
27 Tirupattur Municipality.
28 Conjeeveram Municipality.
29 Tiruvannamalai Municipality.
30 Trivellore Panchayat Board.

OTHERS.

31 French India Government, Pondicherry.
32 South Indian Railway, Trichinopoly.
33 South Indian Railway, Erode.
34 M. & S. M. Railway, Jalarpet.
35 M. & S. M. Railway, Arkonam.
36 Erode Municipality.
37 Executive Engineer, P.W.D., Salem Division, Mettur.

Appendix D-3.

List of H.T. consumers supplied directly by the Electricity department—Papanasam System.

INDUSTRIES.

(a) Textiles.

1 Meenakshi Mills, Ltd., Madura.
2 Pandian Mills, Madura.
3 The Loyal Mills, Koilpatti.
4 The Mahalakshmi Mills, Pasumalai.
5 Kothandaram Mills, Madura.
6 Lakshmi Mills, Koilpatti.
7 The Madura Mills Co., Ltd. Madura (Dunlop Yarn Plant).
8 Rajah Mills, Ltd., Madura.

(b) Others.

9 A. T. Parangiri Nadar & Co., Virudhunagar Oil Mills.
10 T. M. M. Madalai Nadar & Co., Virudhunagar Oil Mills.
11 T. M. S. Madalai Nadar & Co., Virudhunagar Oil Mills.
12 Southern Oil Mills, Virudhunagar Oil Mills.

LICENSEES.

13 South Madras Electric Supply Corporation, Ltd.
14 Tinnevelly-Tuticorin Electric Supply Corporation, Ltd., Tuticorin.
15 West Ramnad Electric Distribution Co., Ltd., Rajapalayam.
16 Reliance Electric Supply Corporation, Okkur.
17 Nattarsanakottai Electric Supply Corporation, Nattarasankottai.
18 Madura Municipality.
19 Virudhunagar Municipality.
20 Sivakasi Municipality.

OTHERS.

21 Shencottah Electric Supply Co. (Licensee of Travancore State.)
22 Virudhunagar Municipality, Waterworks.

Appendix D-4.

List of H.T. consumers supplied directly by the Electricity department—Andhra Power System.

VIZAGAPATAM SYSTEM.

Industries.

1 Scindia Steam Navigation Company.
2 Vizianagram Mining Company, Garbham Mines.
3 Vizianagram Mining Company, Kodur Mines.

Licensees.

4 Vizagapatam Electric Supply Corporation—Town Supply.
5 Vizagapatam Electric Supply Corporation—Aerodrome Supply.
6 Vizagapatam Electric Supply Corporation—Malkapuram Supply.
7 Anakapalli Electric Supply Corporation.
8 Motors and General Stores, Ltd., Bobbili.
9 Salur-Parvathipur Electricity Distribution Co.

Others.

10 Vizianagram Estate.
11 Vizagapatam Port.
12 Royal Navy, Vizagapatam.

BEZWADA AREA.

Industries.

13 Andhra Cement Company, Bezwada.
14 K.C.P., Ltd., Vuyyur.

Licensees.

15 Bezwada Municipality.
16 Masulipatam Municipality.
17 Gudivada Electric Supply Corporation.
18 Ellore Electric Supply Corporation.
19 Guntur Power and Light—Tenali Supply.
20 Guntur Power and Light—Tadepalli Supply.

COCANADA AREA.

21 Cocanada Municipality.

APPENDIX E-1.

List of villages and towns supplied with electrical energy in Government Power Systems.

PYKARA ELECTRICITY SYSTEM.

COIMBATORE DISTRICT.

Avanashi taluk.

1 Andipalayam.
2 Annur.
3 Avanashi.
4 Avanashipalayam.
5 Avanashilingampalayam.
6 Chickadasampalayam.
7 Chikkarampalayam.
8 Chockampalayam.
9 Dhasampalayam.
10 Kalingarayampalayam.
11 Knnarpalayam.
12 Kadathur.
13 Karamadai.
14 Kurumbapalayam.
15 Kattampatti.
16 Kariampalayam.
17 Kuppipalayam.
18 Maddampalayam.
19 Madathupalayam.
20 Mangalakaraipudur.
21 Masagoundanchettipalayam.
22 Mettupalayam.
23 Muthanampalayam.
24 Nambiampalayam.
25 Nellithorai.
26 Odanthorai.
27 Perumangallur.
28 Ponnaigoundanpudur.
29 Rakkipalayam.
30 Thelungupalayam.
31 Thirumuruganpundi.
32 Thekkampatti.
33 Thennampalayam.
34 Virugapalayam.
35 Vanniampalayam.

Coimbatore taluk.

36 Agraharasamakulam.
37 Athipalayam.
38 Bodipalayam.
39 Chettipalayam.
40 Chitrachavadi.
41 Ganapathi.
42 Govindanaickanpalayam.
43 Idigarai.
44 Kalapatti.
45 Kallimadai.
46 Kandaigoundansalai.
47 Keeranatham.
48 Kondayampalayam.
49 Krishnarayapuram.
50 Kuniamuthur.
51 Kurichi.
52 Kavundampalayam.
53 Machampalayam.
54 Mudukkarai.
55 Maniakaranpalayam.
56 Narasimhanaickanpalayampudur.
57 Nanjundapuram.
58 Neelikonampalayam.
59 Ondiputhur.
60 Onnipalayam.
61 Palathorai.
62 Papanaickenpalayam.
63 Pannimadai.
64 Perianaickanpalayam.
65 Perur.
66 Perurchettipalayam.
67 Podanur.
68 Pudupalayam.
69 Samakulam.
70 Saravanampatti.
71 Sengalipalayam.
72 Sinnavadampatti.
73 Sircarsamakulam.
74 Souripalayam.
75 Thettipalayam.
76 Thondamuthur.
77 Tudiyalur.
78 Udayampalayam.
79 Uppilipalayam.
80 Vadamadurai.
81 Velankurichi.
82 Vellalur.
83 Vellakinar.
84 Vellamadai.
85 Veerapandi.
86 Veerakeralam.

COIMBATORE DISTRICT—*cont.*

Coimbatore taluk—cont.

87 Viyampalayam.
88 West Chitrachavadi.

Dharapuram taluk.

89 Dhalavapatnam.
90 Periyakumarapalayam.

Erode taluk.

91 Chennimalai.
92 Chengapalli.
93 Ingur.
94 Kunnathur.
95 Perundurai.
96 Reddipalayam.
97 Thalapatti.
98 Uthukuli.
99 Virumandampalayam.
100 Kavuthampalayam.

Gobichettipalayam taluk.

101 Gobichettipalayam

Palladam taluk.

102 Anuppapalayam.
103 Appanaickenpatti.
104 Arasur.
105 Arugampalayam.
106 Athappagoundenpudur.
107 Bommaigoundnapatti.
108 Chandrakavi.
109 Chinnavadugapalayam.
110 Chinnayagoundenvalasu.
111 Irugur.
112 Kallapalayam.
113 Kalickanaickenpalayam.
114 Kaniyur.
115 Kannampalayam.
116 Kardibavi.
117 Karavalimadapur.
118 Kosavampalayam.
119 Mailampatti.
120 Mudalipalayam.
121 Mangalam Vanjipalayam.
122 Neelambur.
123 Odderpalayam.
124 Palladam.
125 Papampatti.
126 Patanam.
127 Peedampalli.
128 Paramasivampalayam.
129 Rasipalayam.
130 Ravuthur.
131 Sengodagoundanpudur.
132 Somanur.
133 Sulur.
134 Thottipalayam.
135 Uthupalayam.

Pollachi taluk.

136 Achipatty.
137 Angalakurichi.
138 Ambarampalayam.
139 Chittoor.
140 Erisinampatti.
141 Gomangalampudur.
142 Iyerpadi.
143 Jekkarpalayam.
144 Kaliapuram.
145 Kinathukadavu.
146 Koilpalayam.
147 Kottampatti.
148 Kottur.
149 Lakshmanapuram.
150 Maickanampatti.
151 Mallamparai.
152 Malayandipatnam.
153 Muthur.
154 Othakalmandapam.
155 Okkilipalayam.
156 Perianegamam.
157 Samathur.
158 Sethumadai.
159 [illegible]

APPENDIX E-1—*cont.*

List of villages and towns supplied with electrical energy in Government Power Systems—cont.

PYKARA ELECTRICITY SYSTEM—*cont.*

COIMBATORE DISTRICT—*cont.*

Pollachi taluk—cont.

160 Sholavampalayam.
161 Subbaigoundanpudur.
162 Thataravuthanpudur.
163 Valparai.
164 Vettaikaranpudur.

Udumalpet taluk.

165 Adivelli.
166 Andiyur.
167 Bodinatham.
168 Bodipatti.
169 Chinnakumarapalayam.
170 Chinnavalavadi.
171 Dhali.
172 Gudimangalam.
173 Guruvappanaickanur.
174 Jellipatti.
175 Kulipalayam.
176 Kaniyur.
177 Karatholuvu.
178 Kodathur.
179 Kolumam.
180 Komaralingam.
181 Manupatti.
182 Murungapatti.
183 Nallampalli.
184 Peddampatti.
185 Periyapatti.
186 Periavalavadi.
187 Pakkulam.
188 Pottayampalayam.
189 Raghalbavi.
190 Sundakkampalayam.
191 Udukkampalayam.
192 Vanasapatti.
193 Virugalpattipudur.

MADURA DISTRICT.

Dindigul taluk.

194 Chinnalapatti.
195 Pithalapatti.
196 Sembatti.
197 Vakkampatti.

Kodaikanal taluk.

198 Kodaikanal.

Nilakottai taluk.

199 Ammanaickanpudur.
200 Athur.
201 Batlagundu.
202 Nilakottai.
203 Pattiveerampatti.

MADURA DISTRICT—*cont.*

Palni taluk.

204 Akkamanaickenpudur.
205 Amarapundi.
206 Ayakkudi.
207 Chithrarevu.
208 Eramanaickanpatti.
209 Naikarapatti.
210 Papampatti.
211 Vathagoundenualasu.

Periyakulam taluk.

212 Alagapuri.
213 Chinnamanur.
214 Cumbum.
215 Nagalapuram.
216 Ranganathapuram.
217 Srirangapuram.
218 Theni.
219 Uthamapalayam.
220 Veerapandi.
221 Venkatachalapuram.
222 Veppampatti.

NILGIRIS DISTRICT.

Coonoor taluk.

223 Aruvankadu.
224 Aravenu.
225 Ariahutty.
226 Bengalmattam.
227 Hoobathalai.
228 Hulical.
229 Jagathala.
230 Kattabettu.
231 Kilkunda.
232 Kilkotagiri.
233 Kotagiri.
234 Konakarai.

Gudalur taluk.

235 Devarshola.
236 Gudalur.

Ootacamund taluk.

237 Glen Morgan.

MALABAR DISTRICT.

Palghat taluk.

238 Elappulli.
239 Kanjikode.
240 Parai.

APPENDIX E-1—*cont.*

List of villages and towns supplied with electrical energy in Government Power Systems—cont.

METTUR ELECTRICITY SYSTEM.

SALEM DISTRICT.

Omalur taluk.

1 Mettur.
2 Omalur.
3 Pachanampatty.
4 Taramangalam.
5 Jalakantapuram.
6 Nangavalli.
7 Virakkal.

Krishnagiri taluk.

8 Krishnagiri.
9 Kaveripatnam.

Dharmapuri taluk.

10 Dharmapuri.
11 Karmangalam.
12 Arasampatti.

Salem taluk.

13 Yercaud.
14 Elampalli.
15 Ayodiapatnam.

Attur taluk.

16 Attur.
17 Seshanchavadi.

Trichengode taluk.

18 MacDonald Choultry.
19 Komarapalayam.

Rasipuram taluk.

20 Rasipuram.
21 Mallur.
22 Singalandapuram.
23 Thengalpalayam.
24 Valasu.
25 Koneripatty.
26 Valasu.
27 Malayampatti.
28 Kalkurichi Velalapatti.
29 Namagiripet.

Harur taluk.

30 Uttangari.
31 Singarappet.

Namakkal taluk.

32 Velur.
33 Nallipalayam.
34 Laddivadipudupatty.
35 Mohanur.
36 Namakkal.
37 Pilikalpalayam.

COIMBATORE DISTRICT.

Erode taluk.

38 Kodumudi.
39 Edayankattuvalasu.
40 Veerappanchatram.

Bhavani taluk.

41 Bhavani.
42 Chittode.
43 Ammapet.
44 Singampet.
45 Neringipet.
46 Andiyur.
47 Kalbai Thalapalayam.
48 Pudupalayam.
49 Kesarimangalam.

TRICHINOPOLY DISTRICT.

Karur taluk.

50 Uppidamangalam.
51 Punjai Pugalur.

CHITTOOR DISTRICT.

Chittoor taluk.

53 Pakala.
54 Kalroadpalli.

Tiruttani taluk.

55 Tiruttani.
56 Nagari.
57 Sholinghur.

SOUTH ARCOT DISTRICT.

Tirukkoilur taluk.

58 Tirukkoilur.
59 Sirumadurai.
60 Vettavalam.
61 Meyyur.
62 Veerapandy.

Vriddhachalam taluk.

63 Vriddhachalam.
64 Mangalampet.
65 Ulundurpet.
66 Semmangnangur.

Villupuram taluk.

67 Tiruvennainallur.
68 Kandamanadi.

NORTH ARCOT DISTRICT.

Arkonam taluk.

69 Arkonam.
70 Puliamangalam.
71 Kadambattur.
72 Arigalvadi.
73 Nemili.
74 Sayanavaram.
75 Asanalaikuppam.
76 Takkolam.

Vellore taluk.

77 Shenbakkam.

Polur taluk.

78 Polur.
79 Kunnathur.

Wallajah taluk.

80 Kaveripauk.
81 Kalavai.
82 Ozughur.
83 Sumaithangi.
84 Allalacheri.
85 Valluvambakkam.
86 Ocheri.
87 Arumbakkam.

Arni taluk.

88 Arni.
89 Kalambur.
90 S.V. Nagaram.

Cheyyar taluk.

91 Tiruvettipuram.
92 Korakkai.
93 Wandiwash.

Tiruppattur taluk.

94 Jalarpet-Vaniambadi lines.
95 Jalarpet.
96 Christukulashram.
97 Annandapatty.
98 Extension to 4 wells.

Tiruvannamalai taluk.

99 Adaiyur Devanandal.
100 Nallavampalayam.
101 Vengikkal.

CHINGLEPUT DISTRICT.

Conjeeveram taluk.

102 Wallajah.
103 Vaiyavoor.

APPENDIX E-1—*cont.*

List of villages and towns supplied with electrical energy in Government Power Systems—cont.

PAPANASAM ELECTRICITY SYSTEM.

MADURA DISTRICT.

Tirumangalam taluk.

1 Tirumangalam (Panchayat).
2 Tiruparankundram (Panchayat).
3 Harveypatti.
4 Kappalur.
5 Dharmatanampatti.
6 Kalligudi (Panchayat).
7 Melappatti.

Madura taluk.

8 Pasumalai.
9 Palanganatham.
10 Veeramadayan.
11 Avaniapuram (Panchayat).
12 Madura Aerodrome.

Melur taluk.

13 Melur (Panchayat).
14 Thirumancholai.

RAMNAD DISTRICT.

Aruppukottai taluk.

15 Gopalapuram.
16 Palayampatti (Panchayat).
17 Aruppukottai (Panchayat).

RAMNAD DISTRICT—*cont.*

Sattur taluk.

18 Sattur (Panchayat).
19 Thiruthangal (Panchayat).
20 Sivakasi Village.
21 Kattalapatti.

TINNEVELLY DISTRICT.

Koilpatti taluk.

22 Koilpatti (Panchayat).
23 Ettayapuram.

Tenkasi taluk.

24 Tenkasi (Panchayat).
25 Courtallam (Panchayat).
26 Ilanji.
27 Kadayam.
28 Pottalpudur and Ravanasamudram.
29 Therkukadayam.
30 Kilakadayam.

Ambasamudram taluk.

31 Papansam Village.
32 Vikramasingapuram (Panchayat).
33 Ambasamudram Panchayat.
34 Kallidaikurichi Panchayat.
35 Karaikurichi Panchayat.
36 Mukkudal.
37 Ariyanayagipuram.
38 Viravanallur.
39 Mandandurai.
40 Papanasam and Dam Camps.

Shencottah taluk.

41 Shencottah.

ANDHRA POWER SYSTEM.

Bezwada System.

1 Bezwada.
2 Masulipatam.
3 Gudivada.
4 Ellore.
5 Guntur.
6 Tenali.
7 Mangalagiri.
8 Vuyyur.
9 Patamata.
10 Patamatalanka.
11 Yenamalakuduru.
12 Ramavarapadu.
13 Gunadala.
14 Mustabada.
15 Gosala.
16 Mogalrajpuram.
17 Poranki.
18 Edupugallu.
19 Kommamur.
20 Penamalur.
21 Penamakur.
22 Nuzvid.
23 Pedana.
24 Tadigadapa.
25 Gannavaram.
26 Kaza.
27 Chinnakakani.
28 Kanakavalli.
29 Gayikipadu.

Bezwada System—cont.

30 Gollapalli.
31 Kolanukonda.
32 Atmakur.
33 Chilakalapudi.
34 Gandigunta.

Vizagapatam System.

1 Vizagapatam.
2 Vizianagram.
3 Bhimlipatam.
4 Chittivalasa.
5 Tagarapuvalasa.
6 Molda.
7 Gariardi.
8 Donkinavalasa.
9 Chipurupalli.
10 Bhyripuram.
11 Garbham.
12 Anakapalle.
13 Bobbili.
14 Salur.

Cocanada System.

1 Cocanada.
2 Pithapuram.
3 Peddapuram.
4 Samalkot.
5 Velangi.
6 Ramachandrapuram.
7 Pasalapudi.
8 Mandapeta.

Appendix E-2.

List of villages and townships supplied by licensee undertakings.—A complete li[...] district and talukwar as at the end of 1945–46 *including therein the names o[...] villages and townships to which supply was extended during* 1945–46.

Serial number.	Name of licensee.	District.	Taluk.	Serial number.	Villages and townshi[...]
1	Ongole Electric Supply Co., Ltd.	Ongole	....	1	Ongole.
2	Kodaikanal	Madura	....	2	Kodaikanal.
3	Adoni	Bellary ..	....	3	Adoni town.
4	Valparai township ..	Coimbatore	Pollachi	4	Valparai.
5	Ellore	West Godavari ..	....	5	Ellore.
6	Cuddapah	Cuddapah	Cuddapah	6	1. Cuddapah town.
				7	2. *Ramanapalle village.*
7	Anakapalle	Vizagapatam	Anakapalle	8	Anakapalle town.
8	Bellary	Bellary	....	9	Bellary.
9	Tiruvottiyur ..	Chingleput	....	10	Tiruvottiyur.
				11	Kalatipet.
				12	Stattangadu.
10	Tiruppattur	North Arcot district..	Tiruppattur	13	Tiruppattur.
11	Hospet	Bellary	....	14	Hospet.
12	Periyakulam	Madura	Periyakulam	15	Periyakulam.
13	Negapatam	Tanjore	Negapatam	16	Negapatam town.
				17	*Velipalayam.*
				18	Nagok.
				19	Andanapet.
				20	Nanjakollai.
				21	Puttoor.
				22	Sikkil.
				23	*Poravacheri.*
				24	*Kivalur.*
				25	*Papa Koil.*
				26	*Velanganni.*
				27	*Karuvelangadai.*
				28	*Adipallam extension.*
14	Narasaraopet ..	Guntur	....	29	Narasaraopet.
15	Gudivada	Kistna	....	30	Gudivada.
16	Kumbakonam ..	Tanjore	....	31	Kumbakonam.
				32	Darasuram.
				33	Sakkottai.
				34	Sundaraperumalkoil.
				35	Papanasam.
				36	*Rajagiri.*
				37	Pandaravadai.
				38	Ayyampet.
				39	Tiruvadi.
				40	Royampet.
				41	Ganapathy Agraharam.
				42	Veeramangudi.
				43	Someswarapuram.
				44	Devangudi.
				45	Milatoor.
				46	Tirukarugavur.
				47	*Mariammankoil.*
				48	Poondy.
				49	Tiruppuvanam.
				50	Ammapet.
				51	Valangiman.
				52	Tippirajapuram.
				53	Nachiarkoil.
				54	Tiruvadamarudur.
				55	Topparamanallur.
				56	Veppathoor.
				57	Aduthurail.
		Extended during 1945–46 ..	..	58	*Marudanallur.*
				59	*Irumbuthalai.*
				60	*Saliamangalam.*
17	Tiruvallur	Chingleput	Tiruvallur	61	Tiruvallur town.
				62	Ayveliagara village.
				63	Perumbakkam village.
				64	Kakalur village.
				65	Periakuppam village.
18	Virudhunagar ..	Ramnad	....	66	Virudhunagar.
19	Ootacamund	Nilgiris	....	67	Ootacamund.
20	Palni	Madura	Palni	68	Palni.
21	Wellington	Nilgiris	....	69	Wellington.
22	West Ramnad ..	Ramnad	Srivilliputtur	70	Rajapalayam.
				71	Srivilliputtur.
23	Karur	Trichinopoly	....	72	Karur.
24	Nattarasankottai ..	Ramnad	Sivaganga	73	Nattarasankottai.
				74	Sivaganga.
25	Vizagapatam ..	Vizagapatam	Vizagapatam	75	Vizagapatam town.
26	Masulipatam	Kistna..	Bandar ..	76	Masulipatam.
27	Rajahmundry ..	East Godavari.. ..	....	77	Rajahmundry.
				78	Dowlaishwaram.
28	Tiruvannamalai ..	North Arcot district.	Tiruvannamalai ..	79	Tiruvannamalai.
29	Coonoor	Nilgiris	....	80	Coonoor.
30	Udamalpet	Coimbatore	Udamalpet	81	Udamalpet.
31	Bobbili	Vizagapatam	Bobbili	82	Bobbili.

Appendix E-2—*cont.*

List of villages and townships supplied by licensee undertakings.—A complete list district and talukwar as at the end of 1945–46 *including therein the names of villages and townships to which supply was extended during* 1945–46—cont.

Serial number.	Name of licensee.	District.	Taluk.	Serial number.	Villages and townships.
32	South Arcot ..	.. South Arcot ..	.. Tindivanam ..	83	Tindivanam.
				84	Kaveripakkam.
				85	Mylam.
				86	Batriapuliyur.
				87	Vikravandi.
			Villupuram ..	88	Villupuram.
				89	Valavanur.
				90	Panayapuram.
				91	Radhapuram.
				92	Madurapakkam.
				93	Panambattu.
				94	Kolainur.
				95	Narimedu.
				96	Siruvandadu.
				97	Vaniyampalayam.
				98	Rambakkam.
			Cuddalore N.T. ..	99	Cuddalore N.T. & O.T.
				100	Panruti.
				101	Nellikuppam.
				102	Kondareddipalayam.
				103	Poongunam.
				104	Pudupet.
				105	Gavarapet.
				106	Kuchipalayam.
				107	Kozhipakkam.
				108	Pagandai.
				109	Melkumaramangalam.
				110	Soranavoor.
				111	Tirukandaswaram.
				112	Nathapet.
				113	Kondur.
				114	Malmirapet.
				115	District Jail.
			Chidambaram ..	116	Chidambaram.
				117	Vallampadugai.
				118	Bhuvanagiri.
33	Villivakkam ..	.. Chingleput ..	....	119	Villivakkam.
34	Kanadukathan	.. Ramnad ..	.. Tiruppattur ..	120	Kanadukathan.
				121	Pallathur.
				122	Kothamangalam.
				123	Lakshmipuram.
				124	Manachai.
				125	Kottaiyur.
				126	Velangudi.
				127	Alagapuri.
				128	Kondanoor.
				129	Puduvayal.
				130	Poovandipatti.
				131	Chockanendal.
				132	Athangudi Muthupatnam.
				133	Palavangudi.
				134	O'Siruvayal.
				135	Kunnakudi.
				136	Nemam.
				137	Sirukoodalpatti.
				138	Viramathi.
				139	Kilasavalpatti.
				140	Eleyathangudi.
				141	Avinipatti.
				142	Keeranipatti.
35	Okkur Electric Supply Corporation.	Ramnad ..	....	143	Cholapuram.
				144	Okkur.
				145	Keelapungudi.
				146	Kilamangalam.
				147	Madagupatti.
				148	Alavakottai.
				149	Chockanathapuram.
				150	Paganeri.
				151	Pattamangalam.
				152	Kandramanickam.
				153	Tiruppattur.
36	Salur-Parvathipur ..	Vizagapatam ..	....	154	Salur town.
				155	Parvathipur town.
37	Sivakasi ..	.. Ramnad ..	.. Sattur ..	156	Sivakasi.
38	Coimbatore ..	.. Coimbatore ..	....	157	Coimbatore.
39	Devakkottai ..	.. Ramnad ..	....	158	Devakottai.
				159	Shanmuganathapuram.
				160	Thanichaoorani.

APPENDIX E-2—*cont.*

List of villages and townships supplied by licensee undertakings.—A complete l district and talukwar as at the end of 1945–46 *including therein the name villages and townships to which supply was extended during* 1945–46—cont.

Serial number.	Name of licensee.	District.	Taluk.	Serial number.	Villages and townshi
40	Tirumalai-Tirupati.	Chittoor	Chandragiri	161	Tirupati town.
				162	Chandragiri.
				163	Renigunta.
				164	Perumallapalle.
				165	Peroor.
				166	Pudipatla.
				167	Managapuram.
				168	Pudipet.
				169	Thondavada.
				170	Tirumalai.
				171	Gollapalle.
				172	Muthalareddipalle.
				173	Alipiri village.
				174	Tiruchanur.
		Extended during 1945–46 ..	..	175	Kammapalle.
				176	Narasingapuram.
41	Udipi	South Kanara ..	....	177	Udipi.
				178	Karkal.
				179	Manipal.
42	Tanjore	Tanjore	Tanjore	180	Tanjore.
43	Neikuppai	Ramnad	Tiruppattur	181	Neikuppai.
				182	Pulangurichi.
				183	A. Thekkur.
				184	Kondavarayanpatti.
				185	Mahipalanapatti.
				186	Eraniyur.
				187	Sevvur.
44	Guntur	Guntur	Guntur	188	Guntur town.
				189	Mangalagiri.
				190	Tenali town.
				191	Angalakuduru.
				192	Sangamjagarlamudi.
				193	Vadlamudi.
				194	Edlapalli.
				195	Valiveru.
			Bapatla	196	Chebrole.
45	Conjeeveram	Chingleput	....	197	Conjeeveram.
46	Hindupur	Anantapur ..	....	198	Hindupur.
47	Bodinayakanur	Madura	....	199	Bodinayakanur.
48	Dharapuram	Coimbatore	Dharapuram	200	Dharapuram.
49	Chicacole	Vizagapatam	....	201	Chicacole.
				202	Guzaratipeta.
				203	Narasannapeta.
50	*Kurnool*	Kurnool	....	204	Kurnool.
51	Pollachi	Coimbatore	....	205	Pollachi.
					Vadugapalayam village.
52	Vellore	North Arcot	Vellore	206	Vellore town.
			Gudiyattam	207	Katpadi.
			Walajah	208	Walajah.
				209	Ranipet.
				210	Arcot.
				211	Visharam.
53	Cocanada	East Godavari ..	....	212	Cocanada.
54	Tiruppur	Coimbatore	....	213	Tiruppur.
55	Sembiam Electricity Division.	Chingleput	....	214	Sembiam.
56	Nellore Power and Light, Limited.	Nellore	....	215	Nellore.
				216	Kovur and worksho at Bitragunta M. S.M. Railway.
57	Bezwada	Kistna	....	217	Bezwada.
58	Anantapur	Anantapur	....	218	Anantapur.
59	Dindigul	Madura	Dindigul	219	Dindigul.
60	Madras	Madras	....	220	Madras City.
				221	Saidapet.
				222	St. Thomas Mount.
				223	Chromepet
				224	Minambakkam.
				225	Pallavaram.
				226	Tambaram.
				227	Sembiam.
				228	Alandoor.
				229	Villivakkam.
				230	Tiruvottiyur.
61	West Coast	Malabar	Calicut	231	Calicut town.
			Ernad	232	Feroke town.
62	North Arcot	North Arcot	Gudiyattam	233	Pernambut.
			Pernambut	234	Oomerabad.
				235	Nariyempet.
				236	Singalbadi.
				237	Onganallur.
63	Kollegal	Coimbatore	....	238	Kollegal town.
				239	Mudigunda village.

APPENDIX E-2—*cont.*

List of villages and townships supplied by licensee undertakings.—A complete list district and talukwar as at the end of **1945–46** *including therein the names of villages and townships to which supply was extended during* **1945–46—cont.**

Serial number.	Name of licensee.	District.	Taluk.	Serial number.	Villages and townships.
64	Tinnevelly	Tinnevelly	Tinnevelly ..	240	Tirunelveli.
				241	Palamcottah.
				242	Melapalayam.
				243	Tachanallur.
			Srivaikuntam ..	244	Tuticorin.
				245	Vallanad.
				246	Mangalagiri.
65	Salem-Erode	....	....	247	Salem (including Siramangalam).
				248	Erode.
				249	Tiruchengode.
				250	Idappady.
				251	Sankaridrug (including Kuppanur).
				252	Pallipalayam.
66	Mangalore	South Kanara ..	....	253	Mangalore town.
67	Proddatur	Cuddapah	Proddatur	254	Proddatur.
68	Madura	Madura	Madura	255	Madura.
69	Carnatic	North Arcot district.	Tirupattur	256	Vaniyambadi.
				257	Pudur.
				258	Devasthanam.
				259	Old Vaniyambadi.
				260	Chettiyappanur.
			Vellore	261	Ambur.
				262	Alaguppam.
				263	Solur.
				264	Sanankuppam.
				265	Tharvelli.
70	Alandur	Chingleput	Saidapet	266	Alandur.
71	Chittoor	Chittoor	....	267	Cuttamanchi.
72	Trichinopoly-Srirangam.	Trichinopoly	Kulittalai	268	Kulittalai town.
				269	Manaparai town.
				270	Krishnarajapuram.
				271	Sithalavai.
				272	Mahadhanapuram.
				273	Marudur.
				274	Mayanur.
				275	Nangavaram.
				276	Rajendram.
				277	Vaigainallur.
				278	Manathattai.
				279	Mettupadugai.
				280	Lalapettai (Kallapalli).
				281	Thimmachipuram.
			Lalgudi	282	Lalgudi.
				283	Mannachanallur.
				284	Ayyampalayam.
				285	Angarai.
				286	Bikshandarkoil.
				287	Irungalur.
				288	Kallakudi.
				289	Dalmiapuram.
				290	Manakkal.
				291	Kanyamanickkam.
				292	Pudur Uthamanur.
				293	Pullambadi.
				294	Punambalayam.
				295	Puvalur town.
				296	Sengandi.
				297	Nanjai Sengandi.
				298	Sirudayur.
				299	Tiruvellarai.
				300	Somayapuram.
				301	Valadi.
				302	Pudukudi.
				303	Nochium.
				304	Pachur.
				305	Salkkadu.
				306	Keelapalayam.
				307	Kuthur.
				308	Kattur.
				309	Pinnavasal.
				310	Peruvalanallur.
				311	Vellanur.
				312	Samayapuram.
				313	Pudukudi.
				314	Natarajapuram.
			Musiri	315	Musiri town.
				316	Thottiyur town.
				317	Natham.
				318	Mettupadugai.
				319	Pudupatti.
				320	Pulivalam.
				321	Silaipillaya puthur.

APPENDIX E-2—*cont.*

List of villages and townships supplied by licensee undertakings.—A complete lis[t] district and talukwar as at the end of 1945–46 *including therein the names o[f] villages and townships to which supply was extended during* '945–46—cont.

Serial number.	Name of licensee.	District.	Taluk.	Serial number.	Villages and township[s]
				322	Murukur.
				323	Kattuputhur.
				324	Mambarai.
				325	Sankapalayam.
				326	*Tiruvenghi* hills.
				327	*Thuraiyur* town.
			Trichinopoly	328	*Trichinopoly* Munic[i]pality (8 wards).
				329	Srirangam Municipality (3 wards).
				330	Golden Rock (Ponmalaipatti).
				331	Abishekapuram.
				332	Allur.
				333	Andanallur.
				334	Ammangudi.
				335	Ariyamangalam.
				336	Illuppur.
				337	Kambarsampettai.
				338	Kalkandarkottai.
				339	Kottapattu.
				340	Melur.
				341	Mutharasanallur.
				342	Pandamangalam.
				343	*Pettavathalai.*
				344	Sathanur.
				345	Sirugamani.
				346	Perugamani.
				347	Veraganeri.
				348	Tiruverambur.
				349	Uyyakondan*thirumalai.*
				350	Tiruppalathurai.
				351	Kolathur.
				352	Mookanaramalaipatti.
				353	Sengulam.
				354	Palur.
				355	Kavalkarapalayam.
				356	Analai.
				357	Uthamarkoil.
				358	Manjathadal.
		Extended during 1945 ..		359	Navalpatti.
			Udayarpalayam ..	360	Ariyalur town (14 wards).
				361	Kilapaluvur.
			Tanjore	362	Tirukkatupalli.
				363	Ombathuveli.
				364	Palamaneri.
			Pudukkottah State ..	365	*Viralimalai.*
				366	Annavasal.
				367	Tiruvappur.
				368	Usilampatti.
73	Mayavaram-Mannargudi.	Trichinopoly ..	Arantangi ..	369	Arantangi town.
			Mannargudi	370	Mannargudi town (2 wards).
				371	Kuthanallur town.
				372	Puvanur.
				373	Ullikottai.
				374	Melavasal.
				375	Nidamangalam.
				376	Perambur.
				377	Athikadai.
				378	Kamalapuram.
				379	Kottaiyur.
				380	Avikottai.
				381	Pamini.
				382	Serankulam.
				383	Karnavar.
				384	Alacheri.
				385	Budamangalam.
				386	Lakshmangudi.
				387	Koradacheri.
				388	Velukudi.
				389	Mulangudi.
			Mayavaram	390	Mayavaram town (9 wards).
				391	Kuttalam town.
				392	Tranquebar town.
				393	Tirumananjeri.
				394	Keelayur.
				395	Anjaravathalai.
				396	Tholuthalangudi.
				397	Nallathakudi.
				398	Ariyalur.
				399	Akkur.

APPENDIX E-2—*cont.*

List of villages and townships supplied by licensee undertakings.—A complete list district and talukwar as at the end of 1945–46 *including therein the names of villages and townships to which supply was extended during* 1945–46—cont.

Serial number.	Name of licensee.	District.	Taluk.	Serial number.	Villages and townships.
				400	Anathandavapuram.
				401	Chittakadu.
				402	Eravanjeri.
				403	Kadalangudi.
				404	Komal.
				405	Konerirajapuram.
				406	Manganallur.
				407	Midur.
				408	Perumal Koil (Thirazandur).
				409	Melayur.
				410	Sembanarkoil.
				411	Moovalur.
				412	Mappadugai.
				413	Thiruvivandur.
				414	Vanadirajapuram.
				415	Arayapuram.
				416	Kothangudi.
				417	Ambanathapuram.
				418	Solachakranallur.
				419	Tirukkadayur.
				420	Yadagarai (Arangadu).
				421	Porayar.
				422	Errukkattancheri.
				423	Elanthangudi.
				424	Kumaramangalam.
				425	Kollumangudi.
			Nannilam	426	Achuthamangalam.
				427	Ammayappan.
				428	Anaikuppam.
				429	Enangudi.
				430	Adaliyur.
				431	Kamalapuram.
				432	Kangalancheri.
				433	Kodavasal.
				434	Kulikarai.
				435	Perunthuraikudi.
				436	Marudavancheri.
				437	Mudikondan.
				438	Mulangudi.
				439	Nannilam.
				440	Peralam.
				441	Nallamangudi.
				442	Puttagaram.
				443	Sennanallur.
				444	Mappillaikuppam.
				445	Tirukandeswaram.
				446	Sengalipuram.
				447	Manavalampettai.
				448	Srivanchiyam.
				449	Tittacheri.
				450	Tirukkannapuram.
				451	Tirukunnamangai.
				452	Tiruppugalore.
				453	Virkudi (Vettar).
				454	Vishnupuram.
				455	Vadamattam.
				456	Pavitramanickam.
				457	Arasavanangudi.
				458	Semmangudi.
				459	Tirukkalambur. (Sellur).
				460	Tiruvizimazalai.
				461	Kothangudi.
				462	Koothanur.
				463	Poonthottam.
				464	Utharangudi.
				465	Kovilthirunalam.
				466	Marungur.
				467	Thodiyur.
				468	Thirumarugal.
				469	Pragramam.
				470	Vadugakudi.
				471	Kadagambadi.
				472	Manavalanallur.
			Negapatam	473	Tiruvarur town (4 wards).
				474	Alangudi.
				475	Vijayapuram.
				476	Kodikalpalayam.
				477	Alivalam.
				478	Pinnavasal.
				479	Thoppalampuliyur.
				480	Pulivalam.
				481	Tirukkuvalai.

Appendix E-2—*cont.*

List of villages and townships supplied by licensee undertakings.—A complete list district and talukwar as at the end of 1945-46 *including therein the names of villages and townships to which supply was extended during* 1945-46—cont.

Serial number.	Name of licensee.	District.	Taluk.	Serial number.	Villages and townships
				482	Ettukudi.
				483	Gudur.
				484	Olani.
				485	Mavoor.
				486	Kolapadu.
				487	Manakudi.
				488	Alathambadi.
				489	Apprakudi.
				490	Tennavarayanallur.
				491	Valivalam.
			Pattukkottai	492	Pattukkottai town.
				493	Adirampatnam town.
				494	Anaikadu.
				495	Madukkur.
				496	Nattuchalai.
				497	Kovilur.
			Shiyali	498	Shiyali town.
				499	Vaithiswarankoil.
				500	Thadalankoil.
				501	Anaikaranchatram.
				502	Iveli.
			Tanjore	503	Vallam.
				504	Ellupatti.
			Tiruturaipundi ..	505	Tiruturaipundi town.
				506	Muthupet town (14 wards).
				507	Udayamarthandavapuram.
				508	Alangadu.
				509	Idaiyur.
				510	Manali.
				511	Mangudi.
				512	Pandi.
				513	Sengandi.
				514	Thalanayar.
				515	Palayangudi.
				516	Tillaivilagam.
				517	Kodiyalathur.
				518	Nedumbalam.
				519	Siddamalai.
				520	Jambavanodai Vadagadu.
				521	Velur.
1	East Ramnad ..	Ramnad	Mudukkalathur ..	522	Abiramam town.
				523	Kamudhi.
			Paramakudi	524	Emaneswaram.
				525	Ilayangudi town.
				526	Paramakudi town.
				527	Ayyakudi.
				528	Athikarai.
				529	Pudur.
				530	Nainarkoil.
				531	Sathirakudi.
			Ramnad	532	Kilakarai town.
				533	Ramnad town.
				534	Sakkarakottai.
				535	Tiruppulani.
			Sivaganga	536	Manamadura.
			Tiruppattur	537	Kallal.
				538	Sombanur.
				539	Singampuneri.
75	Chingleput	Chingleput	Chingleput	540	Chingleput town.
				541	Tirumani village.
				542	Thimmavaram.
				543	Attur.
76	Madura	Madura	Madura	544	Madura.
77	Alandur	.. ..	.. ..	545	Alandur.
78	Rameswaram Panchayat Board.	.. ..	.. ..	546	Rameswaram.
79	Palghat	Malabar	Palghat	547	Palghat town.
80	Karaikudi	Ramnad	Tiruppattur	548	Karaikudi.
				549	Kovilur.
				550	Managiri.
				551	Nachiyapuram.
				552	Ariyakkudi.
				553	Amaravathiputhur.
				554	Zamindar colony Devakottah road.
81	Cannanore-Tellichery.	Malabar	Chirakkal	555	Cannanore.
			Kottayam	556	Chovva.
				557	Cantonment.
				558	Vallikunnu.
				559	Pallikulam.
				560	Baliapatam.
				561	Pappinisseri.
				562	Tellicherry.

Government of Madras

PUBLIC WORKS DEPARTMENT

(Electricity)

G.O. No. 823, 22nd March 1947

Electricity Department—Administration Report—1945-46—Recorded.

READ—the following :—

From the Chief Engineer (Electricity), dated 17th August 1946, No. 2767-G/46-20.

Order—No. 823, P.W. (Electricity), dated 22nd March 1947.

Recorded.

2. The report contains a record of satisfactory progress of electrical development in the Presidency notwithstanding the restrictions and controls which continued throughout the year despite the cessation of hostilities in 1945. Additional load development was confined to essential needs including agricultural pumpsets. The aggregate demand under the Government systems during the year under review was 60,870 K.W. as against 58,125 K.W. in 1944–45 and the total number of units generated 327·35 millions as against 301·14 millions in 1944–45. The net revenue realized from the hydro-electric systems was Rs. 56·87 lakhs and the return on the capital outlay was 7·65 per cent. The year 1945-46 was the seventh year of operation of the Vizagapatam and Bezwada Thermal Systems and the sixth year of operation of the Cocanda Thermal System. The number of units generated at Vizagapatam, Bezwada and Cocanada Systems was 6·55, 10·38 and 1·4 millions respectively and the net revenue of the three systems Rs. 0·35 lakh yielding a return of 0·44 per cent on the capital outlay.

3. Several major electricity schemes were sanctioned by the Government. The Moyar Hydro-Electric Scheme estimated to cost Rs. 193·1 lakhs initially rising to Rs. 268 lakhs in five years, was sanctioned. The Government have served the statutory notices on the Madras Electric Supply Corporation, Limited, that they would exercise the option vested in them to purchase the supply undertaking on the expiry on 29th August 1947 of the period of the licences granted to it. To meet the heavy demand for power at Madras, sanction was accorded to the extensions to the Power Station at Basin Bridge, Madras (owned by the Madras Electric Supply Corporation and to be acquired by the Government in 1947) estimated to cost Rs. 110·25 lakhs initially rising to Rs. 244·17 lakhs in ten years. The Government have since permitted the Madras Electric Supply Corporation to run the Government Emergency Thermal Station at Villivakkam free of rent in order to meet

the immediate additional demand for power in the Madras area. Sanction was accorded to the extensions to the Vizagapatam Power house estimated to cost Rs. 22·91 lakhs initially rising to Rs. 27 lakhs in five years. Agreement was reached with the Orissa Government on the joint development of the Machkand Hydro-Electric Scheme which is capable of an ultimate development of 100,000 K.W. and the scheme was sanctioned in April 1946. The Madras Government's share is estimated at Rs. 420·11 lakhs initially rising to Rs. 587·6 lakhs in ten years. The Madura Thermal Scheme contemplated in the second stage development of the Papanasam Hydro-Thermal Scheme was sanctioned in April 1946, at an estimated cost of Rs. 88 lakhs. Proposals for the purchase of power from the Jog Falls Scheme of the Mysore Government for distribution in the Ceded Districts have been sanctioned by the Government in August 1946. A heavy programme of construction has been planned for the years ahead and investigation of hydro-electric sites in South Kanara and Andhra districts areas has been planned.

4. One of the main features of the year under review was the unsatisfactory water conditions at Mettur. The Mettur Power-house had actually to be closed down from 16th to 30th January 1946, the lake level having gone down below the limits of power generation. However supply over the whole system was continued without much inconvenience to consumers or diminution in production by availing of relief from Pykara and enforcing a system of staggering of roads and of restriction of consumption to the minimum.

5. The War Costs Surcharge Scheme was sanctioned by the Government in November 1945 authorizing the Electricity department to levy a surcharge on all its consumers including licensees at 10 per cent in Hydro-Electric areas and at 20 per cent in thermal areas. The Government also authorized the licensees obtaining bulk supply from the Electricity department to levy on all their high tension consumers the same surcharge as levied by the department on its high tension consumers. A General War Costs Surcharge Order for the licensee's undertakings was issued by the Government in March 1946 and several licensees have been permitted to levy the surcharge at the rate fixed by the Government.

6. The restrictions imposed in the preceding years on the working hours of oil engine generating stations continued during the year. Except in certain thermal areas, the licensees were permitted to give new domestic service connexions monthly up to certain fixed limits. Restoration of street lights to pre-war level in the areas of licensees served by the Pykara, Mettur and Papanasan systems was permitted.

7. His Excellency the Governor of Madras places on record his appreciation of the continued good work done by the Electricity department during the year.

(By order of His Excellency the Governor)

O. PULLA REDDI,
Secretary to Government.

To the Chief Engineer for Electricity.
" Chief Electrical Inspector to Government.
" Public Department.

AGENTS FOR THE SALE OF MADRAS GOVERNMENT PUBLICATIONS

IN INDIA

BANWARI LAL JAIN, 1719, Motikarta, Agra.
CHANDRAKANT CHIMANLAL VARA, Booksellers, Ahmadabad.
M. G. BAKSHI, Akola.
KITABISTAN, Publishers, Allahabad.
NEW BOOK COMPANY, Booksellers, etc., "Kitab Mahal," 188-90, Hornby Road, Bombay.
D. B. TARAPOREVALA SONS & Co., Bombay.
THACKER & CO. (LTD.), Bombay.
N. S. WAGLE, Circulating Agent and Bookseller, No. 6, Tribhuvan Road, Girgaon, Bombay.
THE BOOK COMPANY, Calcutta.
BUTTERWORTH & Co. (LTD.), 6, Hastings Street, Calcutta.
R. CAMBRAY & Co., Calcutta.
LAW BOOK SOCIETY, Publishers and Printers, 65/3, Harrison Road, Calcutta.
THACKER, SPINK & Co., 3, Esplanade East, Calcutta.
K. KRISHNA AYYAR BROTHERS, Booksellers, Publishers, etc., The Round, Trichur (Cochin State).
The Manager, THE HYDERABAD BOOK DEPOT, Hyderabad (Deccan).
The Secretary, OSMANIA UNIVERSITY STUDENTS' CO-OPERATIVE BOOK DEPOT, Lallaguda P.O., Hyderabad (Deccan).
SOUTHERN INDIAN AGRICULTURAL STORES, Jullundur.
The Director, "THE FRENCH INDIA GAZETTE," Karaikal.
M. R. APPADURAI, Bookseller, 57-A, Anderson Street, Esplanade, Madras.
THE CHRISTIAN LITERATURE SOCIETY FOR INDIA, Post Box No. 501, Park Town, Madras.
CITY BOOK COMPANY, Post Box No. 283, Madras.
C. COOMARASWAMI NAYUDU AND SONS, 27 and 35, Chinnatambi Street, Madras.
HIGGINBOTHAMS (LTD.), Mount Road, Madras.
THE SWADESAMITRAN (LTD.), Mount Road, Madras.
MACMILLAN & Co. (LTD.), Mount Road, Madras.
G. A. NATESAN & Co., Madras.
V. RAMASWAMI SASTRULU & SONS, 292, Esplanade, Madras.
P. VARADACHARI & Co., Booksellers, 8, Lingha Chetti Street, Madras.
Agent, THE SOUTH INDIA SAIVA-SIDDHANTA WORKS PUBLISHING SOCIETY, LTD., 6, Coral Merchant Street, Madras.
VENKATRAMA & Co., Educational Publishers and Booksellers, Esplanade, Georgetown, Madras.
THE LITTLE FLOWER COMPANY, Educational Publishers and Booksellers, 56, Thambu Chetti Street, Georgetown, Madras, E.
V. PERUMAL CHETTY & SONS, 5, Stringers Street, Georgetown, Madras.
MOHAMED ALI HUSSAIN, Educational Publisher and Proprietor, "Medina Press," Triplicane P.O., Madras.
T. KANAKAYYA, Retired Police Officer and Press Correspondent, Buckinghampet, Bezwada (Madras).
THE DECCAN PUBLISHING HOUSE, Husur Road, Calicut (Madras).
THE NATIONAL BOOKSTALL, Cannanore (Madras).
THE EDUCATIONAL SUPPLIES Co., 142-A, Ponnurangam Street, R.S. Puram, Coimbatore (Madras).
Secretary, RAJAJI STATIONERY DEPOT, Devakottai (Madras).
SRINIVAS & Co., Town High School Road, Kumbakonam (Madras).
E. M. GOPALAKRISHNA KONE, Pudumantapam, Madura (Madras).
K. BHOJA RAO & Co., Booksellers, Kodialbail, Mangalore (Madras).
M. SESHACHALAM & Co., Proprietors, "The Hindu Press," Masulipatam (Madras).
B. VENKATARAMAN, Correspondent, Permanent Fund Buildings, Neela South Street, Negapatam (Madras).
D. SRI KRISHNAMURTI, Editor of "Grama Paripalana," Ongole (Madras).
THE HINDUSTAN PUBLISHING Co., LTD., Rajahmundry (Madras).
THE MODERN STORES, Salem (Madras).
The Proprietor, THE HOUSE OF KNOWLEDGE, Booksellers and Publishers, Palli-agraharam P.O., Tanjore (Madras).
SIVAGAMI PUBLISHING HOUSE, Booksellers and Publishers, Srivaikuntam, Tinnevelly (Madras).
S. KRISHNASWAMI & Co., Teppakulam Post, Trichinopoly Fort (Madras).
L. VAIDYANATHA AYYAR, Law Bookseller, Teppakulam P.O., Trichinopoly (Madras).
A. VENKATASUBBAN, Law Bookseller, Vellore (Madras).
BHAWNANI & SONS, Booksellers, etc., Connaught Place, New Delhi.
The Manager, THE INTERNATIONAL BOOK SERVICE, Booksellers, Publishers, News Agents and Stationers, Poona 4.
P. N. SWAMINATHA SIVAN & Co., Commission Agents, Booksellers, etc., Pudukkottai State. (Branches also at Karaikudi, Devakottai and Trichinopoly.)
The Proprietor, THE PUNJAB SANSKRIT BOOK DEPOT, Saidmitha Street, Lahore (Punjab).
MOHANLAL DOSSABHAI SHAH, Books Agent, etc., Rajkot.
B. S. MATHUR & Co., Chatur Vilas, Paota Civil Lines, Jodhpur (Rajputana).
THE BOOKLOVERS RESORT, Booksellers and News Agents, Taikad, Trivandrum.

NOTICE.

Official publications may be obtained in the United Kingdom either direct from the office of the High Commissioner for India, India House, Aldwych, London W.C. 2, or through any bookseller.